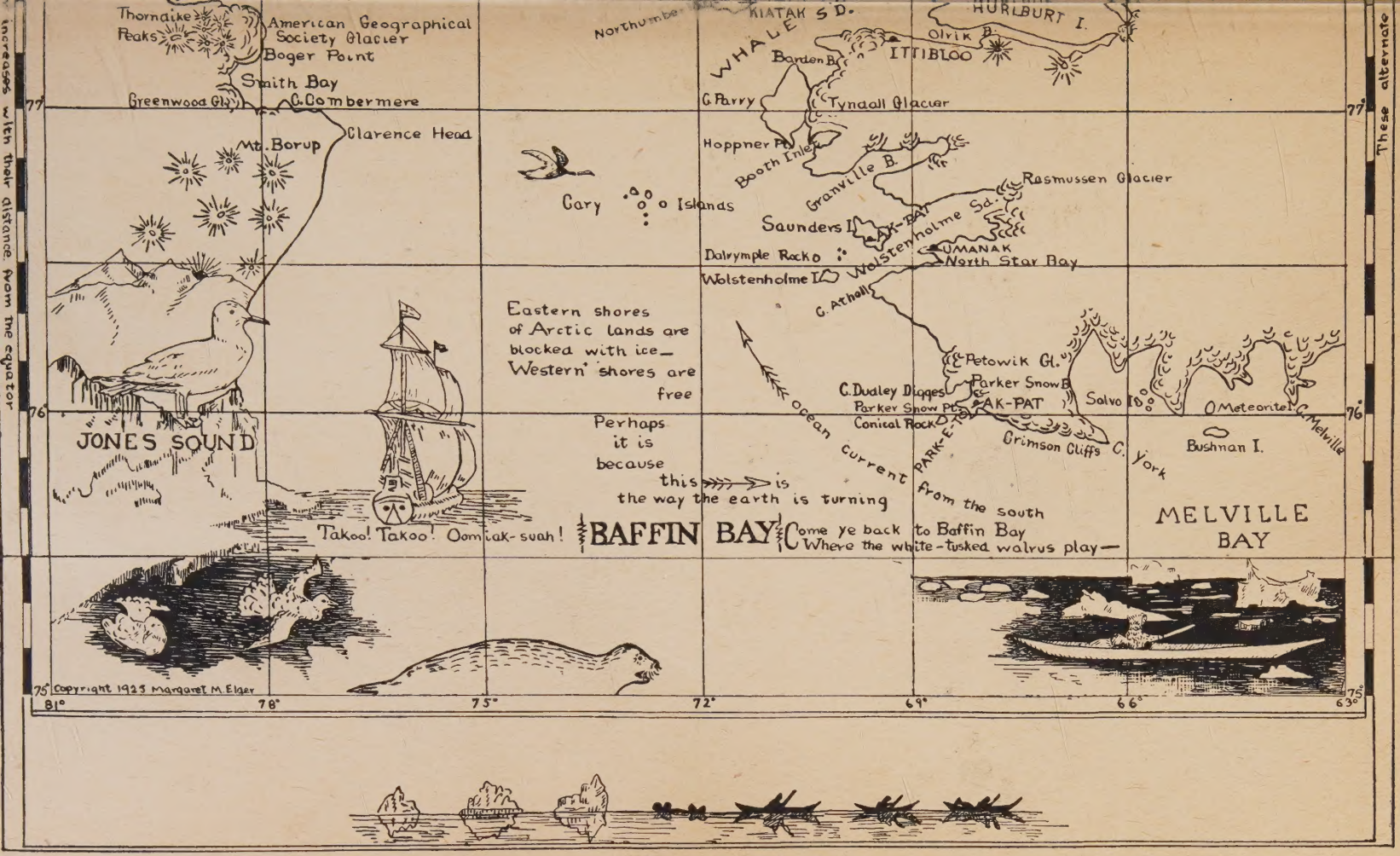
FOUR YEARS IN THE WHITE NORTH

DONALD B. MacMILLAN

81° 75° West 72° Longitude 69° 66° 63°
80° 80°
79° 79°
78° 78°
KANE BASIN
KENNEDY CHANNEL
HUMBOLDT GLACIER
frontal face 50 miles
Peabody Bay
Princess Marie Bay
Victoria Head
BACHE PENINSULA
C. Camperdown
Sverarup Pass
Eskimo migration trail
Flagler Fd.
Fort Juliana
Beitstad Fd.
Beitstad Glacier
Weyprecht Is.
Hayes Sd.
Buchanan B.
Alexandra Fd.
C. Rutherford
Cocked Hat I.
Sabine where 18 men under Greely died in 1883-4
Polaris sank here in 1873
arctic current
ELLESMERE LAND
Where the musk-ox roams
Allen Bay
Greely Gl.
Small Gl.
Ekblaw Bay
Tanquary Gl.
Baird Inlet
Pim I.
Payer Hbr.
Brevoort I.
Ross B.
C. Herschel
Cairn Pt.
Refuge Hbr.
SMITH SOUND
C. Isabella
C. Hatherton
Polaris Bay
Littleton I.
ETAH
Foulke Fd.
C. Kenrick
C. Alexander
Sutherland I.
Hunt Gl.
Blish Gl.
Wyville Thompson Gl.
Gale Pt.
James Gl.
Cadogan Inlet
Paget Pt.
Sparks Gl.
Orne I.
Goaing B.
Look Headland
Spear Bay
C. Dunsterville
C. Ingersoll
C. Grinnell
C. Inglefield
Sylvia Headland
Marshall B.
C. Leiper
Bancroft B.
Brig "Advance" under Elisha Kent Kane frozen in 1853-5 abandoned May 1855
Rensselaer B.
C. Kent
C. Scott
Dallas B.
Advance B.
Blow, winds, and crack your cheeks! rage! blow! you cataracts & hurricanes
KAUMORITOK
FORCE B.
Brother John's Glacier
Pandora Harbor
Crystal Palace Glacier
Retreat Hbr.
SULWUDDY
PETERAVIK
Clements Markham Glacier
Duebitsch Glacier
NERMY
Verhoef Glacier
IGLOO-NARK-SUAH
Sun Glacier
Bowdoin Glacier
C. Chalon
C. Saumarez
C. Robertson
Robertson B.
McCormick B.
GREENLAND
Glaciers here are advancing rapidly — for glaciers
"The brightest bravest Flower of all the Northland," the Arctic Poppy
Frontal face 20 miles
American Museum
This is a Mercator projection: the distance of the parallels of latitude
white divisions represent approximately ten geographical miles each



increases with their distance from the equator
These alternate
Thorndike Peaks
American Geographical Society Glacier
Boger Point
Smith Bay
Greenwood Gl.
C. Combermere
Clarence Head
Mt. Borup
Northumber
KIATAK SD.
WHALE
HURLBURT I.
Olvik B.
Barden B.
ITTIBLOO
C. Parry
Tyndall Glacier
Hoppner Pt.
Booth Inlet
Granville B.
Rasmussen Glacier
Cary Islands
Saunders I.
AK-PAT
Wolstenholme Sd.
UMANAK
North Star Bay
Dalrymple Rock
Wolstenholme I.
C. Athol
Eastern shores of Arctic lands are blocked with ice— Western shores are free
Perhaps it is because this is the way the earth is turning
Petowik Gl.
Parker Snow B.
C. Dudley Digges
Parker Snow Pt.
AK-PAT
Conical Rock
PARK-E-TOK
Solvo I.
Meteorite I.
C. Melville
Grimson Cliffs
C. York
Bushnan I.
ocean current from the south
JONES SOUND
Takoo! Takoo! Oomiak-suah!
BAFFIN BAY
Come ye back to Baffin Bay Where the white-tusked walrus play—
MELVILLE BAY
77°
76°
75°
81°
78°
75°
72°
69°
66°
63°
Copyright 1925 Margaret M. Elger

STEVENS HOTEL CHICAGO
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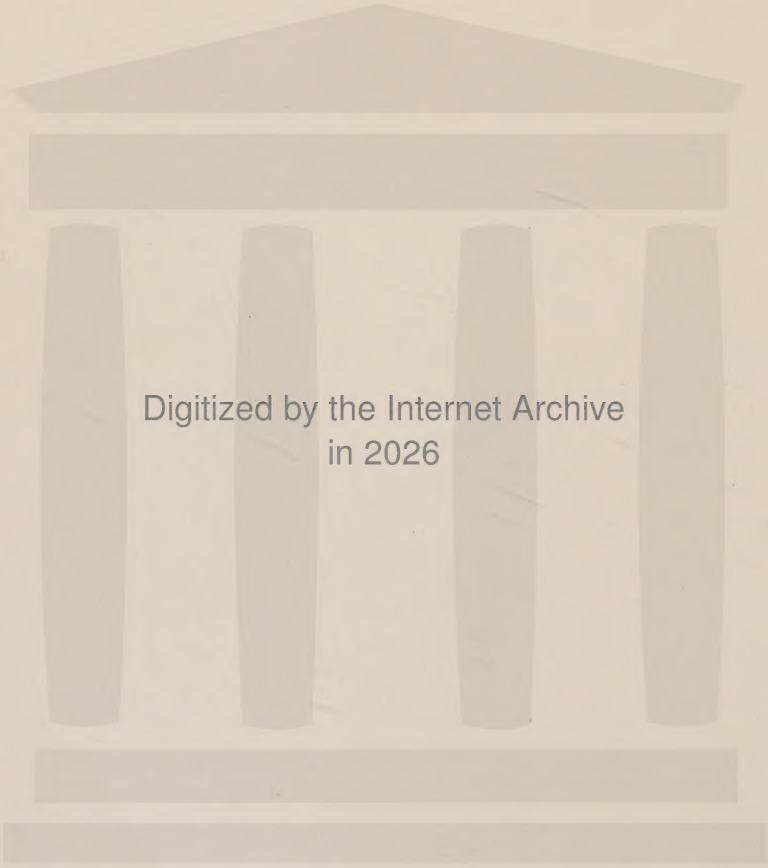
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FOUR YEARS IN THE WHITE NORTH

EIGHT EXPOSURES AT TWENTY-MINUTE INTERVALS OF MIDNIGHT SUN IN SMITH SOUND, 78° 20′ N. LAT.

By this method the land and water were photographed eight times on the same plate. First exposure at 11 P.M., July 25; last at 1.20 A.M., July 26. Note slight curve or dip which increases as one proceeds southward.

FOUR YEARS
IN THE
WHITE NORTH

BY
DONALD B. MACMILLAN
D.Sc., F.R.G.S.
Lieutenant-Commander, U. S. N. R. F.

WITH A FOREWORD BY
ADOLPHUS W. GREELY
Major-General, U. S. A., Retired

New and Revised Edition

ILLUSTRATED FROM PHOTOGRAPHS BY THE AUTHOR

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26

TO THE MEMORY OF
ONE OF THE WHITEST, ONE OF THE BEST;
TO HIM WHO WOULD HAVE GONE—
GEORGE BORUP

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FOREWORD

For many years I thought the story of Kane's explorations the most interesting and thrilling of all Arctic volumes. The publication of MacMillan's *Four Years in the White North* presents to all lovers of adventure a volume surpassing in its entirety the story of Kane's experiences in the same region and among the same Children of the Ice.

MacMillan's vivid accounts of human and animal activities and his descriptions of the Arctic world hold fast the attention of the fascinated reader. Especially admirable are the pictures, — photographic and verbal, — of the Etah Eskimo, the most northerly race of the earth.

One comes to love the Eskimo dog, with his antics, vigor and loyalty; to a sense of astonishment at the tactics of the musk-ox in defending his wife and children; and in general to admire the courage and tenacity of other Arctic animals. From MacMillan we come to know how they live and prosper in the great land of desolation, — sunless for months, amid a total darkness marked by cold so intense as to menace life of any kind.

Behind all these scenes are MacMillan and his comrades, whose wonderful journeys over the inextricable masses of broken floes on the Great Frozen Sea eliminated from our maps the mythical Crocker Land. While these were journeys of negation, other trips added greatly to our knowledge of the Arctic regions of North America.

Modestly told, MacMillan's story is marked by its fidelity to truth, its accuracy of description, its absence of exaggeration, and its freedom from imaginative efforts to increase its popularity.

A. W. Greely.

Washington, D. C., *May 27, 1925.*

June 6. 1925.

Sincerely yours

Donald B. MacMillan

INTRODUCTION

THE Pole had been discovered. My dreams and hopes of years had culminated in one short year's work under Peary. When the S. S. *Roosevelt*, homeward bound, stuck her short stub nose into the ice-fields of Robeson Channel and lay there panting, unable to proceed, I secretly hoped that Torngak, the evil spirit of the North, would keep her there. Only one short year of Arctic work! But that, under the tutelage of a great master, had left me anxious to continue. What a grip the great white ice-fields get on a man! And what a fascination may exist in the most desolate places!

When, a few weeks later, North Greenland lay but as a ribbon on the sky-line, I had made up my mind—I was going back. But where? Far off in the northwest, beyond the heights of Axel Heiberg and Grant Lands, lay the largest unexplored white spot on the surface of the globe, one-half a million square miles in area. And at the very edge of this, with its white head beckoning to man, stood Crocker Land, reported and named by Peary in 1906 after one of his supporters, with the words: "I seem to see more distinctly the snow-clad summits of a distant land in the northwest above the ice horizon." Here was a goal worthy of ambition!

My decision to return into the frozen North was not

actuated by this single report. Richardson, McClure, Marcus Baker, Capt. John Keenan, and Dr. R. A. Harris have all given reasons for the existence of such a land. This belief has persisted for nearly ninety years. The accumulated evidence of years substantiated Peary's belief.

My friends realized that this was the last great geographical problem of the North, and they generously offered to contribute the necessary funds for the carrying out of my plans in 1911. In the spring of that year I received a letter from George Borup, assistant curator of geology in the American Museum of Natural History, stating that if I would consent to postpone my departure for one year, we, as joint leaders, would receive the help and patronage of that institution.

Here were two inducements—one the honor of working under the auspices of the American Museum, and the other the help and companionship of George Borup, my roommate on the S. S. *Roosevelt*.

I consider myself fortunate in having known and worked with Borup. Such men are not common. When an assistant to Peary in 1908, he was only twenty-three years old, yet he was one of the strongest and grittiest in the party. As an illustration of the latter quality, I may cite an incident in the day's work in the early spring of 1909.

On that memorable date Borup was sent back to land for oil. Tides, currents, and winds so acted upon the ice as to cut off all communication with the advance party. His Eskimos, fearing for their lives, did not dare to proceed northward with the much-needed fuel. During this interval George wrote me a note which I found weeks later in the crack of an old snow igloo

under the cliffs of Cape Columbia. A part of it read as follows:

"Everything has gone to hell. My Eskimos are talking of quitting and of hiking for the ship. *If they do, I shall go it alone just as soon as I can get across the lead.*"

With a heavy sledge and alone, he was going out over the drift ice in search of his commander!

Borup prepared at Groton School, and graduated from Yale in 1907; then he became an apprentice in the Pennsylvania Railroad machine-shops at Altoona, Pennsylvania. Attendance at a lecture by Peary in 1906 fired his ambition to see the Arctic regions.

In the spring of 1912 I proceeded to New York to assume charge of the outfitting of the expedition, Borup at this time being engaged in post-graduate work at Yale University. Our voluntary subscription of ten thousand dollars, through our friends, to the American Museum, was more than doubled, contributions being received from one hundred and thirty-seven individuals and twelve colleges, schools, and societies.

All was preceeding well when, in April, the sad news of Borup's death was received. At a meeting of the executive committee of the Board of Trustees of the Museum, held in May, 1912, it was resolved to postpone the expedition for one year, and that it be made a memorial of George Borup.

With the reorganization which followed, our expedition of three men, with one object in view, expanded rapidly into a personnel of seven men and several objects to be attained:

1. To reach, map the coast-line, and explore Crocker Land, the mountainous tops of which were seen

across the Polar Sea by Rear-Admiral Peary in 1906.

2. To search for other lands in the unexplored region west and southwest of Axel Heiberg Land, and north of Parry Islands.
3. To penetrate into the interior of Greenland at its widest part, between the 77th and 78th parallels of north latitude, studying meteorological and glaciological conditions on the summit of the great ice-cap.
4. To study the geology, geography, glaciology, meteorology, terrestrial magnetism, electrical phenomena, seismology, zoology (both vertebrate and invertebrate), botany, oceanography, ethnology, and archeology throughout the extensive region which is to be traversed, all of it lying above the 77th parallel.

The great unexplored sector of the Polar Sea may be reached by a selection of one of the following routes: (1) Bering Strait; (2) Lancaster Sound; (3) Jones Sound; (4) Smith Sound and Flagler Bay.

The first offered many inducements, the chief of which was the proximity of the edge of the unknown sector to the western shores of Prince Patrick Island; an economy of many weary miles of sledge-work on the Polar Sea. Ice conditions, however, along the northern shores of Alaska and in the Beaufort Sea all militate against the safe arrival of a ship at headquarters, and most certainly against her return in the same season, as was planned.

Lancaster and Jones Sounds may be perfectly practicable one year and utterly impossible the next; therefore both were eliminated in favor of the Smith Sound route.

With a good stanch ship, Etah, North Greenland, and Cape Sabine on the opposite shore are attainable every year. Leading west into the shores of Ellesmere Land are Buchanan and Flagler Bays. Here I planned to build our winter quarters, a distance of 375 statute miles from our objective point. The ship, having landed the personnel, supplies, and equipment, was to return south with the intention of coming back at the end of two years, or three years at the latest.

During the waning light of the fall months, advance depots of supplies were to be advanced over the heights of Ellesmere Land into Bay Fiord and Eureka Sound, our last being established at Cape Thomas Hubbard, the most northern end of Axel Heiberg Land. Upon the return of the sun in February, our advance toward Crocker Land was to begin with the help of some fifteen Eskimos and their 150 dogs, the teams traveling light from food-station to food-station, thereby reserving their strength for the arduous work of the Polar Sea.

If Crocker Land did exist, then the work of exploration and survey would be continued in the spring of 1915 and possibly 1916, depending upon the size and character of the newly discovered land. Because of approaching warm weather and the consequent disintegration of the sea ice, a return to headquarters in Flagler Bay by June 1st would be imperative. Here, for the remainder of the year, work was to be carried on in meteorology, botany, ethnology, geology, zoology, seismology, ornithology, and terrestrial magnetism.

If no word was received from us at the end of two years, a relief-ship was to be sent in search of the party. With the help of fresh meat, which I knew to be abundant in the vicinity of our winter quarters, our pro-

visions were adequate for a sojourn of at least three years.

The American Geographical Society and the University of Illinois came to the help of the American Museum in financing this undertaking, and the expedition sailed under the auspices of these three institutions.

D. B. M.

Boston, Massachusetts, *May, 1918.*

FOUR YEARS IN THE WHITE NORTH

"He heard of a new land far to the north, and rest was not his until he saw it."—Panikpa, narrating the deeds of his grandfather.

FOUR YEARS IN THE WHITE NORTH

I

NORTHWARD HO!

THE hot 2d of July, 1913, is one of the mile-stones which will always loom large in the perspective of our past. We were standing on the line, faces toward the north, awaiting the shot that should start us out on two long years of Arctic work, two years of uncertainty, of desired objects to be attained, of blasted hopes, of adventure, of wonderful and strange sights, of extreme happiness for some, of abject misery for others.

Huddled, as if for protection, among the giant steel-gray ships of our navy at the Brooklyn Navy-yard lay the old *Diana*, of St. John's, Newfoundland. Her high bow, her peculiar rig, her lines, her bridge, the crow's-nest at the topmast-head, her greenheart sheathing, all told of her battles in the far North and of her object here—the transportation of the Crocker Land Expedition to the head of Flagler Bay, Ellesmere Land, 660 miles from the North Pole.

With the thud of the last box on the deck, the splash of ropes in the water, and the sound of the gong in the

engine-room, the weary, anxious months of preparation now shaped themselves into the foundation of the structure which we were to build. Our long voyage to the top of the earth had begun.

Important and decisive battles in the North have been won weeks and even years before they were fought. A man returns from the Polar Sea and says, "I have failed." The average mind visualizes open water, rough ice, pressure ridges, unsurmountable barriers, but the leader knows that he failed before he ever left home, because of carelessness and poor judgment in the selection of his food, his men, his equipment; a failure to discriminate between the important and the unimportant objects to be attained; a total ignorance of the varying phases of the work; and a lack of that most important and very valuable characteristic of an Arctic man—resourcefulness in grappling with the ever-arising unknown factors of the problem.

Too much care cannot be exercised in the selection of food, equipment, and men; the selection must be based upon one's own experience and upon the experience of all those who have preceded him in the field. The real work of an expedition is borne by the leader for months prior to its departure, and then comes a relaxation, a school-boy's Saturday feeling—a long, long holiday. When going far beyond the confines of civilization, nothing must be forgotten which would tend to expedite and facilitate the work planned; not a single item of the many thousands which help to spell success, from pins, and bands for birds to sheet lead for broken boats and crutches for broken limbs! One expedition sailed away some years ago without brooms. For two years the house was swept with birds' wings!

Into the hold of the *Diana* had gone but a fraction of the equipment, yet it included: 10,000 pounds of biscuit; 5,000 of flour; 1,500 of beans; 1,400 of dehydrated vegetables; 1,000 each of rolled oats, corned beef, salt pork, and tobacco; 600 of evaporated apples; 500 each of yellow meal and prunes; 350 of coffee; 300 each of tea and codfish; 10,000 gallons of kerosene oil, and 1,000 each of gasolene and alcohol; 2,400 tins of condensed milk; 1,500 of hash, 1,000 of baked beans, 800 of sweet corn; 700 of tomatoes; and 500 of salmon.

As the *Diana* passed under the stern of a U. S. N. receiving-ship, *Hancock*, the band assembled on the quarter-deck and struck up, "Hail, the Conquering Hero Comes," followed by "Auld Lang Syne," "In the Good Old Summer-time," and "The Girl I Left Behind Me." Commander Ryan was evidently well aware of the fact that one of my men had been married only one week, two others were engaged, and one wanted to be. The strains of "In the Good Old Summer-time" failed utterly to call forth the least feeling of regret that we were leaving the dust, dirt, and prostrating heat of city life for the pure, clear air and clean snows of the far North.

Our state-rooms looked like the interior of a huge grab-bag—boxes, bundles, books, and packages of all shapes and sizes, out of which oozed stuffed dates and chocolate frosted cake. My bed was filled with salted peanuts, my pillow was covered with—I never knew what it was!

"Crocker Land," under a thick layer of white frosting, rested upon the table in the main saloon. Proudly scaling its heights with banners flying was an "intrepid band of Arctic explorers," the conception of Artist Operti, an Arctic enthusiast. And amid the chaos

of it all came a cheery peep from the sunlit skylight—a golden canary leaving his pleasant New York home for bleak and barren Labrador, a gift to the wife of a missionary at Hopedale.

The personnel is the heart of an expedition, which means its health and energy and life. One bit of disloyalty, one leaky valve, may impair the whole system. Conditions under which one lives in the far North are very abnormal—far away from the touch of the humanizing elements of civilization; from the political and international laws which govern man in his relations with his fellow-men; from the comforts of home; from the loving kindness of relatives and friends; from the companionship which man craves; from the hum and activity of a busy world; from the news and progress of the day. Away from the ever-recurring sunlight days of the homeland, he goes north to plunge into the shadows and darkness of the long, cold winter; and then the dark nights which man should have for sleep give way before the continual brightness of a revolving sun.

The men had been carefully selected. All were young, energetic, and enthusiastic. The roster read:

W. Elmer Ekblaw, A.B., A.M., University of Illinois. Geologist and botanist. Born March 10, 1882, Rantoul, Illinois. Instructor, University of Illinois, 1910–13.

Maurice Cole Tanquary, A.B., A.M., Ph.D., University of Illinois. Zoologist. Born November 26, 1881, Lawrenceville, Illinois. Assistant in entomology, University of Illinois, 1907–12. Instructor in entomology, Kansas State Agricultural College, 1912–15.

Harrison J. Hunt, A.B., 1902, M.D., 1905, Bowdoin. Born, Brewer, Maine, 1879. Captain 'varsity track and football teams.

Ensign FitzHugh Green, U.S.N. Physicist. Born St. Joseph, Missouri, 1889. Graduated from Naval Academy, Annapolis, 1909. Georgetown University, A.M., 1913.

Jerome Lee Allen. Electrician and Wireless Operator. Born April 17, 1891, Morgan County, Georgia. Detailed to the Crocker Land Expedition by the U. S. government. Received training at navy wireless school in New York City. Detailed to U.S.S. *Patuxent*, U.S.S. *New Hampshire*, Norfolk, Virginia, Beaufort, North Carolina. Special work at Bureau of Standards, Washington, and at Naval Radio Laboratory.

Jonathan Cook Small. Mechanic and cook. Born Provincetown, 1876. U. S. Life-saving Station, 1893–1902. Mechanic in Boston, 1902–12. Labrador summer trip, 1912.

Beautiful clear weather accompanied us in our journey through the Sound and around Cape Cod to Boston, where we loaded additional supplies and 14,000 pounds of pemmican. Friends and relatives steamed down the harbor with us on the afternoon of the 5th, and at daylight of the 6th we headed eastward toward the shores of Nova Scotia.

The little town of Sydney, Cape Breton, has witnessed the departure and return of many an Arctic expedition. At this little outpost of the homeland we picked up packages rushed through by mail and express, letters from home, telegrams, 30,000 pounds of dog-biscuit imported from England, and 13,000 feet of matched spruce for our house to be constructed in the far North. The *Diana* was loaded as she had never been loaded before. With scuppers awash, we steamed over to North Sydney late in the evening of the 12th, where our deck

cargo was restored and the ship swung for compass deviation.

At five in the afternoon of the 13th three long blasts of our steam-whistle, a salute to the quiet little town, announced that our long two-thousand-mile trip had begun. From Low Point came the signal, "We wish you a pleasant voyage," to which we replied, "Thank you."

There were no long, lingering looks at the land astern, no painful thoughts of the home-leaving; this was our chosen task, and we were eager to be at it. Ten miles out of Sydney, the *Southern Cross*, Borchgrevink's old South Pole ship, passed us, bound in, colors flying and Captain Clark in the rigging. To the cheery clear call of "Hello, Mac!" I waved my cap. The *Southern Cross* passed out of our life; two years later she went down with all on board.

When I rolled into my hammock beneath the boat davits at ten o'clock, I threw off, with my clothes, all worry and care, all ever-present thoughts of preparation, and all responsibility. We were but passengers on a chartered ship. Our fortunes for the next three weeks were in the hands of the captain. The hoarse bellow of the fog-whistle throughout the night did not rob me of a wink of sleep. With the Newfoundland coast close aboard, we steamed north on the 14th, with steadily falling barometer and increasing northerly winds. At dark the *Diana* was laboring heavily in a head sea. Deep, logy as a log, sticking her nose into every curling sea, and shipping tons and tons of water, she wallowed like a submarine. As I awoke in the night and listened to the roar of the wind and rush of wave, I dropped off to sleep with the comforting thought that before reaching

the turbulent waters of Baffin Bay she would lighten herself by a daily consumption of nine tons of coal.

By morning the gale had abated. Clouds and mist rolled away, revealing the southern shores of Labrador on the distant sky-line. And there lay our first iceberg! White wanderers of the North, how intensely interesting they are! Often one and even two hundred can be counted from the crosstrees. Not formed in or of salt water, as many believe, but of the compacted snows of centuries, deposited upon the summits of far northern lands, they have slowly crept through winding valleys ever onward toward the sea. During stormy winter months they have listened to the roar of winds and the rustle of drifting snow; during the spring months, to the sound of falling waters, to rocks leaping and bounding into space, to the cry of the gull, to the croak of the raven, and to the bark of the fox. At last, born of the parent glacier, they float majestically off to their death in southern seas, beautiful beyond description in their glittering whiteness, marvelous in their changing colors.

That bright afternoon when we hugged the Labrador coast, steaming north in smooth waters toward the Straits of Belle Isle, was one to remember. The musical talent of the expedition burst forth in song, accompanied by the mandolin and guitar. In the fine voices of Allen and Tanquary were promised hours of entertainment during the long winters of the North. One by one the boys left the quarter-deck to snuggle down in their hammocks and wonder, now they were entering the outer gates of dreamland, what to-morrow had in store for them. The lights in the fishermen's huts of Red Bay winked and blinked us to sleep.

A little after midnight came a nerve-racking vibration

from stem to stern, as if the very bottom of the *Diana* was being ripped completely out of her. She listed to port. There was a moment of deathlike stillness; then an agonized cry from the depths of the engine-room, "Is that the bottom?" A babble of voices! A stampede from for'ard and after cabins! And then the darkness was fairly shot to pieces with: "I'll be damned!" "How did she get here?" "Her back is busted!" "Back her!" "If you do, she'll sink!" "Get your bags!" "She's stuck, sir." "She'll never come off, sir."

As I leaped from my hammock, Captain Waite passed me in negligée, headed for the bridge—which he never should have left, endangered as we were by a heavy mist, strong tides, and numerous icebergs. He clutched the railing and stared helplessly into space.

I waited patiently for the word which would bring order out of chaos, some command which would quiet this half-crazy crew. It was evidently each man for himself and the devil take the hindmost. Our twenty-one-foot dory shot from the lofty skids into the sea, and came to the surface filled to the gunwales.

Born on Cape Cod, one of the graveyards of the North Atlantic, and thoroughly acquainted with wrecking methods, I knew instinctively that to save the ship two things must be done and done at once: run out a kedge anchor well off the starboard quarter to prevent the ship from going broadside on to the beach, and then lighten the cargo. Learning that we had grounded on the height of the flood tide, I realized at once the seriousness of our situation. Although I had absolutely no control over the ship and her crew, I felt that the expedition equipment, supplies, and coal for which we were paying were at least subject to my command.

Our deck-load of coal, about fifty tons, must go, and over it went to the bottom. We had entered a race against a rising wind and sea which would tear the bottom out of the *Diana* in a few hours. She must be relieved of the weight which, on the ebb tide, might mean a broken back. As Doctor Hunt and I started for the shore just at break of day with the first load of dog-biscuit, I realized how pitifully feeble were our efforts, and how infinitesimally small the weight we had removed in comparison with the tons and tons which must be landed on the beach. More boats and more men were the great needs. "Rush" was the watchword. The slightest increase in swell and all was lost.

The services of Frederick Paterson and Judge Carroll Sprigg, who were going north with us for the summer, and that of their power-boat were invaluable. They volunteered to work hard and long—and to the limit. My nephew, Dr. Neil A. Fogg, I despatched to Red Bay with telegrams to the American Museum, to Job Brothers, of St. John's, owners of the ship, and to Battle Harbor. I was hoping to get in touch with one of the government steamers which ply up and down the coast during the summer months with mail and passengers.

Three fishing-schooners appeared in the distance, bound north. Realizing the importance of these vessels as lighters, we signaled for help and soon had them alongside, our hatches off, and boxes going over the rail in a steady stream. With one of my men on each of the three schooners, I directed them to proceed to Red Bay, where the cargo was to be landed on the dock to await our arrival. When our power-boat reached Red Bay, news of the wreck spread through all the little

fishing-villages, with the result that during the day some twenty or thirty trap-boats came from north and south. But mingled with my feelings of relief and appreciation of this timely help were grave apprehensions for the safety of our ship and cargo. I knew all too well the fate of the last wreck, a beautiful iron ship fitted and provisioned for two years. Her crew were driven from her deck, ropes and sails cut from her spars, fittings torn from her cabin, and the provisions loaded into boats. After this raid she was sold at public auction on the dock at Battle Harbor for the princely sum of five dollars!

Fortunately, through my work in Labrador I knew many of these boatmen. A continuous stream of boxes over the rail, an increasing pile upon the shore, were testimonials of their confidence and friendship. Their pay was my word.

On the morning of the 17th, the *Stella Maris*, the Newfoundland government steamer, was sighted rounding the point. To my astonishment, I learned that during the night there had been such a severe gale only twenty miles away that she was compelled to give up the trip and remain at anchor at Cape Charles. In the mean time we had had hardly a particle of wind and scarcely a ripple on the water. Providence? A miracle? Or the fickleness of nature? At Cape Charles it was unanimously and laconically agreed, "She's gone!" At Battle Harbor, with the wind tearing through the tickle and the rain beating against the window, grizzled fishermen peered into the darkness, muttering, "Not a trace of her will be left!" A slight swell, however, as a result of this gale, arose during the day, rolling the *Diana* considerably from starboard to port, and

with each roll the smoke-stack rose at least a foot through the deck, causing grave fears that she could not possibly stand the strain.

The sharp list of the ship made it impossible to keep water in one of our boilers, and Mr. Crossman, our chief engineer, declared that, for the safety of the ship and men on board, he dared not risk keeping up the fires. An explosion was imminent! Yet, upon the high water, steam was absolutely necessary in the attempt to back the ship from the rocks! He was persuaded to keep the fires bright and a full head of steam on, regardless of the consequences.

On the flood, the *Stella Maris* passed us a hawser, dropped her anchors well off to sea, and started her steam-winches and propeller, we on board the *Diana* starting our steam-winches and reversing our screw. The *Diana* did not budge. We kept feverishly at the work, lightening the ship, knowing that she must come off if relieved of her weight. The crew offered no encouragement whatever. Most of them had packed their bags and had carried them ashore, declaring that no ship wrecked on Barge Point had ever left the rocks.

As I feared for the safety of our food and equipment on the land, I placed Ekblaw, Green, Allen, and Tanquary as guards. Hunt and I remained on board the ship, directing the work of unloading. At night on the high water, when we again attempted to pull the *Diana* from the rocks, we were both down in the hold of the ship filling the coal-buckets, and coal was going over the rail in a steady stream, when a shout arose from the men on deck that we were slipping off into deep water. Captain Waite at last seemed to come out of his reverie,

and anchored the ship about three hundred yards from the shore, just at dusk.

Appreciating the danger of our proximity to land and the probability of an increase of wind and sea at any minute, we turned instantly to the work of reloading our cargo, seriously handicapped as we were by a heavy mist and the blackness of the night. We were about to congratulate ourselves on the probable success of our arduous work, with no sleep and very little food, when a man arrived from the shore to report that the fishermen, upon whom I depended for the reloading of the ship, demanded one dollar and fifty cents an hour for their services! I visited the shore at once, impatient to examine this new species of Labrador fisherman who valued his services so highly. There stood the men with hands in their pockets, looking a bit sullen. A few words resulted in their acceptance of fifty cents.

That night's work seems like a nightmare. The rattle of the steam-winch, the cries of the men, the flickering lights, the boats appearing and disappearing in the darkness, the aching body, the sore hands, the drunken crew! Thank God! at daylight every box and every single item of our equipment were again restored in our hold and about our decks, one farmer-fisherman ejaculating: "What do ye think! I didn't even get a board for me barn door!" I ordered the ship to proceed to Red Bay for the boxes which the three fishing-schooners landed there, and I jumped over the rail of the deeply loaded mail-boat, walked dizzily to a state-room, and fell asleep trying to remove my boots. Forty-two hours without sleep, combined with hard physical labor and continuous mental strain, inexorably demanded rest.

On the 19th the *Diana* came steaming proudly up the

S. S. "DIANA" LOADING AT BROOKLYN NAVY-YARD

coast with colors flying. A thorough examination was made of the hull in Battle Harbor, with the result that the captain, mate, engineer, and every man of the crew declared that she was absolutely unseaworthy. I crawled down into the forehold far beneath the boxes, where I could hear a steady stream of water trickling down over the sheathing and running aft into the hold of the ship. A wireless at once urged the Museum to charter the *Erik*, of St. John's. Then followed a triangular, endless stream of instructions, advice, and misunderstanding between the American Museum, Job Brothers, and myself. Job Brothers, owners of the ship, demanded that I should return to St. John's with the *Diana* before delivering the *Erik* in charter to the American Museum; and so I was reluctantly forced to give up my plan of transferring cargo in Battle Harbor and gave orders to steam to St. John's, where we arrived on July 27th. We had the same sort of busy days here as on the rocks at Barge Point. Not a moment could be lost; work must be carried on day and night. It was now late in the year, and only for a few days during the year are the doors of the Arctic open, and if one does not get inside when they are open, it means wait for another year. Back we steamed to Battle Harbor on August 3d and quickly loaded the supplies left there by the *Stella Maris*, and on the 5th we were again headed toward the North.

It was a part of my original plan to call at the Moravian mission stations on the Labrador for sealskin boots and Eskimo dog-drivers, both valuable adjuncts to an Arctic expedition, the former being superior in every way to anything obtainable in North Greenland, and the latter possessing that very valuable and much-

appreciated qualification — an understanding of our own language. Lack of time, however, precluded all thought of any deviation from a direct course to Cape York.

A gale in Baffin Bay on the 6th, 7th, and 8th knocked every one of the expedition clean down and out, excepting Jot Small, mechanic and cook, who has never known what it is to be seasick.

The forecastle deck sprang a leak and the crew for'ard were nearly washed out of their berths. With every heavy head sea the bones of the fifty-year-old *Erik* fairly shrieked in agony. The watchful Jot observed our house lumber, piled high on the skids, lurching heavily from side to side with every roll, and had it more securely lashed, thereby saving us from most serious loss.

On August 12th we passed over the Arctic Circle, but the members of the expedition were too busy bagging coal for our winter quarters to notice any perceptible bump or to watch the bows of the ship for the boarding of Father Neptune, who in these latitudes should have walrus tusks and a harpoon in lieu of the conventional flowing beard and trident.

Our first field of ice on the 13th necessitated a détour to the eastward of about five miles; and, wonderful to relate, this was the only détour made during the long voyage of two thousand miles from Sydney to Cape York.

Thick fog on the 14th caused us considerable anxiety. The innumerable small islands and outlying ledges off the Greenland shore north of Upernavik are justly to be dreaded, especially following a long period of thick weather, making sights for position impossible and com-

pass variation very uncertain. Out of the thick fog, dead ahead and apparently only a few yards distant, loomed a gigantic berg, its great bulk threatening instant destruction. The quick eye and the prompt action of Chief-engineer Crossman, who happened to be on the bridge, averted a catastrophe. A whirl of the wheel hard over and a clanging of bells in the engine-room filled up those few long seconds as the great black shadow crept past our port quarter and dissolved into white mist behind us. With the darkening of the gray curtain into the silhouettes of numberless bergs, through which we cautiously wound at a snail's pace, I recognized our position as the "Bergy Hole" of the Dundee whalers who have bravely thrown their wooden ships into the crushing, grinding ice of Melville Bay for a century.

Each year witnessed the return of these magnificent fellows in their sturdy bluff-bowed ships, saw them fold their wings at the edge of the ice in June, and begin that long struggle toward the north water, 170 miles distant. The thrill of the whole thing! Here was the battle-field of a century! A battle against the titanic forces of nature, where man matches his strength, his ingenuity, his wit, his brains, against violent winds, blinding, drifting snows, biting cold, and the crushing strength of untold millions of tons of ice. A blue ribbon of water leading northward through a limitless field of glittering whiteness, the ringing command of officers, the singing of the tracking men, the long line of yarded ships, the pursuit of polar bears, the crack of rifles, the cheery cry from ship to ship, the friendly rivalry as one ship forged ahead and took the lead!

Ice conditions in Melville Bay during the so-called

navigable months—June, July, and August—are entirely dependent upon the strength of the prevailing winds during the year. Strong prevailing northerly winds predict to a certainty an open season, especially if in combination with strong southerly winds. The latter break up the great northern ice-fields; the former remove them. In 1857 southerly winds blew incessantly for six weeks, with the result that all whaling-ships were beset and two were crushed. In 1830 twenty-two ships were crushed, one, the *Race Horse*, being literally turned inside out and her keel forced up through her deck. One thousand men retreated to the Danish settlements and all arrived in safety except two, who died from the effects of liquor.

Some years are really remarkable in that apparently all the northern seas have been swept bare of ice by strong northerly winds. In 1871 the *Polaris*, under the command of Charles Francis Hall, plowed through an almost iceless sea to the extremely high latitude of 82° 11′, which was farther north than any ship had gone under steam. In 1881 the *Proteus*, under the command of Greely, proceeded through Baffin Bay, Smith Sound, Kane Basin, and Kennedy Channel, hardly deviating from her course. In 1908 the *Roosevelt* steamed straight on toward Cape York, encountering no ice whatever. The year 1913 was just such a year. A record in crossing Melville Bay simply depended upon the speed of the ship.

At 10 P.M. on the 14th the fog above our heads disappeared completely, revealing a blue sky and massive black mountains well off the starboard quarter. The surface-lying mist quickly dissolved, enabling us to recognize, well astern, the basalt shaft known as the

THE "ERIK" LANDING SUPPLIES AT PROVISION POINT, ETAH

Devil's Thumb. As the southern boundary of Melville Bay it lifts its black head a thousand feet above the level of the sea, bearing a striking resemblance to an old rugged, upturned thumb. It is situated in 74° 40′, north latitude, 165 miles from Cape York.

Cape Seddon and Cape Walker could be seen off the starboard bow and, within a few hours, Cape Melville, dominating heads of black rocks outlining the curve of Melville Bay.

At 12.30 P.M. on August 15th we blew our whistle under the cliffs of Cape York. Only ten days had been consumed in our long trip from Battle Harbor to this northern settlement of the Smith Sound tribe. The ice of the dreaded Melville Bay had not even scratched our paint!

One hundred years ago, Sir John Ross navigated his ship through Melville Bay and arrived at the edge of the ice-field attached to these shores. To his amazement, black dots were seen rapidly approaching. What in the world could they be? Eskimos and their dog-teams! The most northern people in the world! Eagerly they examined the big ship and in detail everything connected with it. Through an interpreter from South Greenland they asked Sir John where he came from. He replied:

"From the south."

"That is impossible," they said. "No one could live down there. All of our ice goes off in that direction. It must be now filled up with ice!"

Doctor Kane, in 1853, and Doctor Hayes, in 1861, found but a small population, and stated that in a few years undoubtedly the race would vanish. There are more to-day than there were then, and they are in-

creasing rapidly. In 1909 the total population of these northern shores numbered 218; in 1917, 261.

Four kayaks shot out from the shore. We scrutinized closely the face of each occupant in hopes of recognizing an acquaintance of the last Peary Expedition of four years before. All Eskimos dress alike and wear the hair long, so that their identity is almost indistinguishable at a distance. We often recognize a man by the shape of his kayak, no two of which are exactly alike

"Look at the girls!" exclaimed the crew for'ard, who had interpreted the long, flowing hair of the men as proof of the opposite sex. The "girls," clothed in sealskin coats and bearskin pants, grinned and nodded in response to the salutations of the coal-stained line of faces of the firemen at the rail; they appeared highly complimented at the recognition.

One face looked familiar. Yes, it was faithful old Kai-o-ta, my traveling companion on the Polar Sea and to the northern point of Greenland in 1909; the same Kai-o-ta, to whom Charlie, the cook, gave the tabasco sauce when he greedily extended his mouth for maple syrup! His oleaginous coat of dirt cracked in divers directions upon our mutual recognition. The voluble fuzzy center of a group of highly entertained white men, he informed me of the whereabouts of the boys whom I wanted as dog-drivers and general assistants—the boys who had been waiting now for four years upon my promise to return and lead them far west to a new land.

Two of the best men were twenty miles south. We immediately turned back and attempted to penetrate the big field of ice lying close to Bushnan Island. A

ICEBERG IN MELVILLE BAY

Born in the far North, they drift off to their death in southern seas.

few hours' work convinced me of its impossibility, and we steamed north toward Umanak, arriving there at 2 A.M. on the 16th. Here Panikpa and his two sons, Ka-ko-tchee-a and E-took-a-shoo, were told of my plans and were soon on board with their wives and dogs and all their personal effects.

We headed now toward the northern settlements, hoping to complete our complement of men and dogs. Passing Cape Parry, the sharp eye of Ekblaw detected a polar bear walking along the shore. Although sadly in need of skins for our clothing, I decided to permit our sportsmen tourists to have the pleasure of getting their first trophy. Our twenty-eight-foot whale-boat was launched, manned, and rowed to the shore, along which Mr. Bear was proceeding in a leisurely manner, wholly unconscious of the whispering, crouching, and a bit excited group that followed stealthily from shelter to shelter, some armed with gigantic cameras, some with heavy rifles, and some with nothing at all.

Suddenly conscious of the enemy, the bear turned at right angles and ran for the water; but not too quickly for Judge Sprigg. A well-directed shot added another trophy to his game list. The head dropped beneath the water; the body lay still, and with considerable difficulty it was rolled into the boat.

With the bear on our deck we proceeded around Cape Parry into Whale and Murchison Sounds, ever on the watch for walrus to serve as food for our dogs.

Two were seen on a pan shortly after passing the eastern end of Herbert Island.

"Do you want them?" inquired Captain Kehoe.

"Certainly. I'd like to have them for dog food," was my reply.

Without any previous warning to the engine-room, he pulled the bridge telegraph to "Stop!" From full speed ahead to dead stop was too much to demand of the gouty, wheezy old *Erik*. There was a commotion in the engine-room. The second engineer ran for the throttle, the chief for the top of the engine-room ladder. His fat red face burst out of the companionway, his eyes fairly popping with rage. A quick, withering glance at the captain on the bridge culminated in the startling yell of, "You'll blow her up!" and in an equally sudden disappearance.

The innocent and crestfallen captain looked at the hole leading to the engine-room, at the water rushing by without any notable cessation, and at me with a bewildered look upon his face. Finally he blurted out:

"What koind of a ship is it that they can't stop her? I never heard of such a thing in all me days!"

There was land ahead, and I wondered if Captain Kehoe seriously thought of putting the wheel hard over and letting the *Erik* travel in circles! She slowed down, however, somewhat cautiously, as an old body should, but complaining bitterly, as she always did.

Under the direction of Murphy, our second mate, two walrus were shot upon the pan and hoisted to our deck with the steam-winch.

At Ig-loo-da-houny, in Robertson Bay, we found a large number of Eskimos in camp and we selected three desirable men—Arklio, Teddy-ling-wa, and Tau-ching-wa. It is interesting to note that all these northern Eskimos, although apparently very prosperous and not in need of white man's goods because of the proximity of the Danish trading-station at North Star Bay, were very anxious to accompany us.

WHEREVER MOTHER GOES, BABY GOES, SNUGGLED IN THE HOOD AGAINST THE WARM BACK

A GOOD WIFE IS A GOOD CHEWER. BOOT SOLES ARE A GOOD TEST OF TEETH

The Eskimo really seems to appreciate the stranger's *companionship*, and he enjoys the varied experiences which he is bound to have when in search of new lands. The Eskimo is a true nomad. Nothing delights him so much as the knowledge of the fact that he alone of the assembled company has been far north or west and knows the way to distant hunting-grounds. With the certainty of the white man's food and strong equipment and the comfort derived from tobacco, he loves to undertake these sometimes dangerous journeys. As old Panikpa once said:

"We never worry on such trips. We let the white man do that."

Nerky, fifteen miles north, furnished us with Noo-ka-ping-wa and Oo-bloo-ya, the former quite unknown to me, but the latter a well-tried and trusty man. At Etah, where we arrived at 11 P.M. on the 18th, one more boy, Ah-pellah, was taken because of his knowledge of lands to the far west.

On the 19th we began to buck the ice of Smith Sound in the endeavor to cross to the selected site of our winter quarters at the mouth of Flagler Bay, eighty miles due northwest. A few hours' work convinced me that my captain had no intention whatever of placing the old *Erik* beyond that running stream of ice pouring through the narrowest part of Smith Sound. Compelled by the insurance company to select a man with a "ticket," we had to sacrifice experience in ice navigation to book learning and a knowledge of finding longitude and latitude. The captain was afraid the ship would be compelled to winter in the far North, and he hung obstinately and tenaciously to the eastern side of the Sound and well out of all danger of being caught or carried

to the south by drifting ice. For six long days we worked back and forth along the edge of the pack, scarcely bumping a pan and feeling quite secure from the terrors of the Arctic regions. How I wanted Bob Bartlett!

On the 25th my patience was exhausted. I realized that we were simply wasting time yachting in Arctic seas, and I ordered Captain Kehoe to land me at the nearest spot, Etah, North Greenland, with a full realization of the fact that our goal was across the dreaded waters of Smith Sound and that what should have been done by the ship must now be done over the ice in early spring with dog-team. Fortunately, my experience when here with Peary in 1908–09 stood me in good stead, enabling me to acquire a knowledge of Etah Harbor and its surroundings.

II

ETAH

ON August 26th we moored ship close to the rocks of Provision Point, Etah Harbor, and in two days and a half, with the help of our Eskimos, all the supplies and equipment of the Crocker Land Expedition were landed upon the rocks. On the 30th the *Erik* blew her whistle, dipped her flag, and was soon out of sight around Cape Alexander, ten miles to the south. There were no tears in our eyes or feelings of regret that we had chosen to remain. We were glad to see her go and thus sever all ties with home and civilization.

The name Etah, the most northern settlement in the world, is so well known that it may be somewhat of a shock to learn that what is considered to be a thriving settlement really consists of five black-looking holes in a sloping hillside. A careful census reveals the amazing fact that in some years even these holes are not inhabited—a deserted village. Other years, however, the streets are crowded with as many as fifteen people! Upon our arrival we found a serious congestion—nineteen men, women, and children.

Etah, or Foulke Fiord, is situated on the shores of North Greenland at the narrowest part of Smith Sound, in latitude 78° 20′, 700 miles from the North Pole. It

was first visited by white men upon the arrival of members of the Kane Expedition in 1854, who found some ten or a dozen Eskimos encamped here. It was named Foulke Fiord after William Parker Foulke, of Philadelphia, by Dr. Isaac Israel Hayes, who wintered in 1860–61 at a small bight in the land just south of the entrance, which he called Port Foulke.

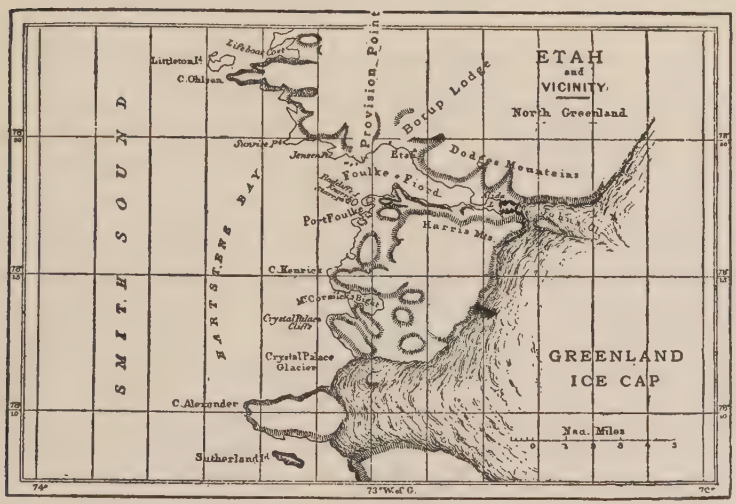
At the head of the fiord, which is four miles in length, and separated from it only by a narrow neck of land, lies Alida Lake, named after a friend of August Sonntag, the astronomer of both the Kane and Hayes Expeditions. Into Alida Lake dips Brother John's Glacier, so called by Doctor Kane after his brother, John Kane, who visited this spot in 1855 on the relief expedition. Etah itself is a beautiful harbor, with its cliffs rising almost from the water's edge to the height of 1,100 feet, and it is one of the very few good harbors in North Greenland, since it opens toward the southwest, a quarter from which few gales ever come.

Etah has played an important rôle in Arctic history. Standing on the heights of the hills, we had before us in panorama a complete picture of the struggle of the last sixty-five years, a story of great endeavor, of herculean effort, of triumph over all obstacles, of victory won; a story of disaster, of shattered hopes, of utter defeat, starvation, and death.

In August, 1852, the *Isabel*, under the command of Capt. E. A. Inglefield, came around Cape Alexander, ten miles to the south, and "beheld the open sea stretching through seven points of the compass." Bravely she bore up, bucking into a heavy head sea and strong northerly wind, but just above Etah she was compelled to swing on her heel and drive rapidly south over the

BROTHER JOHN'S GLACIER AND ALIDA LAKE

distant horizon. One year later the little brig *Advance*, under the command of American Arctic explorer, Dr. Elisha Kent Kane, came sailing around the same point. Her men landed on the shores of Littleton Island, built a cairn, raised their flag, and celebrated the record of farthest north in Smith Sound. The ship proceeded,



ETAH AND VICINITY

and disappeared around Cape Hatherton, ten miles to the north.

One year later a group of men appeared from the north, dragging a whaling-boat. It was launched, and off they sped toward Beechy Island to obtain help, if possible, from Sir Edward Belcher's squadron, fast frozen in the ice. Early in August the boat returned and disappeared again into the north. Another year went by, and then two boats were seen being dragged slowly southward

over the ice toward Littleton Island. Doctor Kane and his men, after two years of hardships, had decided to abandon the good ship *Advance* in Rensselaer Harbor and sail south in their little boats toward the South Greenland settlements. The Eskimos of Etah fed them day after day on the bodies of the little auks. The boats went south and disappeared around Cape Alexander.

Two months later the steamship *Arctic*, under the command of Lieut. H. J. Hartstene, steamed slowly along the shore in search of Doctor Kane and his men. Upon being informed by the Etah Eskimos that the white men had gone south, the steamship turned and disappeared in the distance. In 1860 the little schooner *United States*, under the command of Dr. Isaac I. Hayes, appeared. Buffeted by wind and ice, she crept into the niche below Etah Harbor, almost a complete wreck. Here she remained during the winter, while the men in the early spring plodded northward, dragging their boats on their sledges, hoping to launch them in an open polar sea. In 1861 she, too, sailed away toward the south.

Ten years later the U.S.S. *Polaris*, under the command of Charles Francis Hall, steamed proudly past Etah, through Smith Sound, Kane Basin, Kennedy Channel, and Robeson Channel to the record-breaking latitude of 82° 11′. One year later she drifted helplessly southward, locked in the ice. In danger of being crushed, the men threw boxes of food over the rail onto the ice-floe. The crack between the ship and the floe widened. Nineteen men, women, and children, adrift on the pan, started on their long trip of 1,300 miles through the darkness of the winter night, to be picked up off Grady Harbor, Labrador, on April 30, 1873. The remainder of the crew

worked their ship through the broken floes into a sheltered nook on the mainland just north of Littleton Island. The ship was stripped of everything valuable, and a small house was constructed to serve as winter quarters. In the spring two boats were built, and passed Etah on their way south. The ship drifted from the beach and sank between Littleton Island and the mainland.

In 1875 two of England's proudest and best ships, the *Alert* and *Discovery*, steamed grandly by and disappeared over the northern horizon on their way to the North Pole. One year later the little *Pandora*, under command of Sir Allen Young, paced restlessly back and forth at the edge of the big ice-field stretching across to Cape Isabella, in the hopes of being able to penetrate the pack and get into communication with Sir George Nares, who was at the same time slowly making his way southward down through Kennedy and Robeson Channels, homeward bound. In a few weeks the two ships sailed toward the south, having broken the world's record for farthest North.

In 1881 the American flag again entered Smith Sound. Greely, of the Lady Franklin Bay Expedition, steamed by in the *Proteus* on his way to winter quarters in Lady Franklin Bay on the eastern shores of Grant Land. The ship returned, leaving these men in the far North with the understanding that a ship was to visit the station each year. In 1882 the *Neptune* cruised in vain along the edge of the ice opposite Etah, looking for an opportunity to get through. She failed in her purpose and retreated south. In 1883 the *Proteus* again passed Etah. She proceeded to Cape Sabine, and within a few hours after leaving that point was crushed in the ice

and disappeared. The men passed Etah in three small boats on their way southward. Late in the fall of the same year a party of men were seen drifting far out in the ice of Smith Sound. They zigzagged back and forth across the channel, and finally succeeded in landing at Eskimo Point on the Ellesmere Land coast, some thirty miles west of Etah. Greely and his men were obeying orders and going to their death. They walked northward to Cape Sabine, built a hut there, and died one by one until only seven were left.

In 1884 two ships sent by the United States government, under the command of Captain, later Admiral, Schley, arrived at Etah in search of the lost expedition. An examination of the cache established at Littleton Island in 1882 revealed the fact that Greely and his men had not passed that point. The two ships steamed through the ice to Cape Sabine. There, on Brevoort Island, a note was found informing the searchers that Greely and his men were in camp some three miles away, on the opposite shores of Bedford Pim Island. In a few days the two ships passed Etah with the living and the dead, bound south to report to the homeland the result of their search.

In 1897 another ship steamed past this spot. It was Peary on a reconnaissance of the Smith Sound route to the Pole. The year 1898 saw the flags of two nations go by, the American expedition under the command of Peary, and the Norwegian expedition in the old *Fram*, under the leadership of Sverdrup. An exceptionally hard year prevented progress toward the north, with the result that 1899 saw both ships anchored in Etah Harbor. The years 1900–01 again saw the ships of Peary engaged in the work, bringing supplies, and taking

KING OF THE NORTH

Drawn up in a dignified manner, with his white body outlined against the black hills, he looked every inch of what he is—the King of the North.

him southward in 1902. In 1905 the S.S. *Roosevelt* entered upon the scene. More strongly built than all the others, she plowed her way through the heavy ice of the Smith Sound route, steaming farther north than any ship has ever steamed and reaching her winter quarters on the northern shores of Grant Land. In 1906 she crept into Etah Harbor, a battered hulk. In 1907 Doctor Cook arrived in the *John R. Bradley* and proceeded on toward Anoritok. The year 1908 beheld the *Roosevelt* again, with her consort, the *Erik*, steaming proudly into Etah, loaded to the rail with dogs and Eskimos, in her last and successful attempt to reach the North Pole. Here again, in 1909, she steamed south with colors flying, to announce the attainment of the three-hundred-year prize. In 1910 the *Beothic*, chartered by Rainey, under the command of Bartlett, steamed into Etah, crossed the Sound, and disappeared southward. In 1913 the Crocker Land Expedition entered upon the stage. The old *Erik* landed her supplies, as I have said, blew her whistle, and disappeared around Cape Alexander.

As soon as we had landed, my first thought was that the game supply might prove inadequate for the needs of the expedition party and our Eskimo recruits; therefore I decided to send them all south again to their homes, with the exception of old Panikpa and his family and E-took-a-shoo, with orders to report to me the following February.

I remembered Peary's experience here in 1899–1900 with strong winds which swept down off the Greenland ice-cap and across the harbor out to sea; this induced me to build our house in the vicinity of the centuries-old rock igloos of the natives, trusting to their judgment

to discover the sheltered sites. Subsequent years proved that there were no favorable building lots in Etah Fiord. However, here we were and here we must live. A green spot on the northern shores, a few yards distant from a waterfall and running stream, was selected for the location of our northern home. We pitched our tents and our Arctic life began. We blew out the large boulders with dynamite to level the foundation of our house, and excavated two large rooms which later proved to be most attractive abodes for our Eskimo helpers. The boys worked long and hard from seven in the morning to eleven at night, through all kinds of wind and weather; through rain, snow, and sleet.

To his many scientific attainments Ekblaw added those of a practical workman, so to him was intrusted the planning and building of the eight-foot shed encircling two sides of our house, a very valuable addition, serving as meat, harness, and provision room, and also as an Eskimo igloo. The work was admirably done.

In two weeks, under the direction of Small, master builder, our house was habitable. During the four years we lived there we were very comfortable in all kinds of weather, with the consumption of only thirty-five tons of coal, which we had landed on the beach in bags previous to the departure of the *Erik*. Our house was thirty-five feet square, double, with a four-inch air-space constructed of seven-eighth-inch boards, tongued and grooved, covered with Cabot quilt and rubberoid roofing. Eight rooms on the ground floor were apparently a luxury, but they were really necessary and most conducive toward the happiness of the men and the successful carrying out of our plans.

Leading off from our large living-room were four bed-

rooms which also served as working-rooms. In the rear were three rooms—a workshop, an electrical room containing our oil-engine, batteries, etc., and a photographic dark-room. To the surprise of the Eskimos, our house was fitted with electric lights. A large flash-light over the door welcomed visiting Eskimos from the south and proved of great value in loading and unloading sledges during the long, dark winter night. The electric current, generated by a beautiful oil-engine and dynamo, was a necessary part of our wireless equipment.

In my room there was a telephone connected with the igloos of the Eskimos—another wonder, and one which caused no end of talk. Requests from the cave-men came thick and fast for tobacco! A people really living in the stone age were enjoying, as though by a wave of the hand, two of the greatest of modern discoveries. They never quite understood the telephone or electric lights, wondering how sound or light could possibly travel through a solid wire!

Our meteorological work began with our landing upon the shore, and was continued uninterruptedly for four years, with the exception of a break in our observations of about ten days in September, 1915, when all the men were away from Etah.

I realized the importance of having plenty of fresh meat for my men, and I encouraged the Eskimos to hunt incessantly and bring to the house for trade all that they could possibly spare. As a result, when darkness settled down over the land in October, for the long period of 118 days, our meat-room was well stocked with the bodies of frozen hare, eider duck, seal, walrus, and caribou meat.

Much has been said pro and con about the use of fur

clothing in the Arctic. An expedition of some years ago objected to furs because of the smell; others have criticized their use because of the unbearable heat consequent upon hard work. I received my training under Peary, a man of twenty years of most successful work in the far North, and naturally I approved and followed his methods in every detail of my work. I consider furs absolutely essential and indeed indispensable for the hard, cold work of the early spring trips of February, March, and April. "Do as the Eskimos do; dress as the Eskimos dress," is a good adage to follow.

It occurred to me, when fitting out the expedition, that here would be an opportunity to experiment upon the relative value of woolens and furs, by offering to the men a choice between the most approved windproof material obtained in this country and the light, warm furs of the far North. The personnel of the Crocker Land Expedition had the very best cold-weather clothing which could be bought in New York City, and yet not a man seriously thought at any time of wearing the high-priced woolen suit. We deferred to the judgment of people who have been living here at the top of the earth for centuries.

The services of the Eskimo women at Etah were invaluable. Within a few months every man was beautifully and warmly clad in caribou-skin coats, bearskin pants, and sealskin boots, and each one was ready and eager for the big work of the expedition to begin—the exploration of Crocker Land far out on the Polar Sea, due northwest of Cape Thomas Hubbard.

With the forming of sea ice Etah was the Mecca of the North; all roads led from the south. Eskimo men, women, and children, with their dog-teams, came from

CHRISTMAS DINNER, 1914. LEFT TO RIGHT: HUNT, GREEN, EKBLAW, TANQUARY, ALLEN, MENE (ESKIMO), SMALL

200 miles away to see the white strangers and their wonderful house at Etah. Our home was overcrowded with the bodies of sixty Eskimos, sleeping in our attic, in the carpenter's shop, in the dark-room, under our beds, and under the floor. Two hundred loose dogs prowled about the grounds. There was very little dog food in the settlement, and our visitors remained until their dogs were so weak that they could hardly pull them toward their southern homes. They wanted to see all, and to hear all, and our boys entertained them in every conceivable way.

Ekblaw never tired of amusing them, seated about our big kitchen table, with games of the homeland. Tanquary sang to them in his deep bass voice to the accompaniment of his guitar. Jot Small had a partially bald head, a wrinkled face, long red whiskers, and a most extraordinary knowledge of the Eskimo language, which, when accompanied by a vigorous waving of both arms, brought forth gales of laughter. Hunt was the Angekok, the big-medicine man! He had bottles of wonderful pills! He could sew up wounds with needle and thread! He could put you to sleep and cut off fingers and toes! And he could pull teeth so quickly that you could hardly feel it! The big doctor had a warm place in their hearts. But Allen was the man who made the lights in the big dark-room, the man who put the very devil in door-latches so you could not get in, and the same thing in bowls of water!

The days were shortening gradually, until finally came October 24th, when the sun dropped below the horizon. Former travelers have described in detail the frightfulness of the Arctic night. They have failed to tell of the indescribable beauty, the solemnity, which

pervades and embraces all, when the sea ice, the valleys, the hills, the peaks, and the receding glaciers are bathed in the lights and shadows of a revolving full moon. A fairyland of the dreams of childhood!

None of the earlier expeditions ever thought of attempting sledge-work during the darkness of the winter period, regarding it as positively suicidal. Ships were frozen in, housed over, banked deep in snow, and all was made comfortable for the cold months to follow. Lime-juice and grog were issued. Papers were published. Schools were kept. Daily lessons were assigned. One hour's exercise was enforced. Theaters were opened. Birthdays were celebrated—everything and anything to divert the mind. Much has been written of "the monotonous night that drives men mad, of hair turning gray, of steps growing enfeebled following the departure of the life-giving sun," etc. After five years of Arctic work, and four of these years in succession, I can truthfully say that never for a minute have I missed this "life-giving sun." I never longed for it to return; my health was in no way affected by darkness, and monotony was absolutely unknown. As a boy, plunging into the warm waters of Cape Cod, I looked forward to the freezing of the pond when I could go skating; so from the kayak of the Arctic summer months I looked forward to the freezing of the great, restless, open sea when I could go sledging.

The returning Arctic explorer is often asked, "What can you do during the dark period?" Let me enumerate the following subjects in which, if one is thoroughly interested, months of profitable time may be expended:

(1) Photography. Exceptional opportunities are offered for securing negatives of the revolving stars,

planets, and moon; long exposures of snow houses and Eskimo villages; flash-lights of visiting Eskimos; while negatives made during the summer may be classified, indexed, and packed away for transportation. During the fifteen hundred days in the North I exposed, developed, and filed five thousand negatives.

(2) Meteorology. During the first two years, barometric and thermometric readings, also cloud percentage and force and direction of wind, were recorded every hour. During the last two years barographs and thermographs were recorded every second of the time.

(3) Zoology. Darkness and low temperatures militate to some extent against the handling of equipment necessary in the collecting of zoological specimens beneath the ice of fiord, ponds, and lakes. However, it can be done and has been done most successfully. The fact that conditions are so adverse to life only increases one's curiosity and interest; and we also have with us for study the larger forms of life, such as the raven, owl, hare, fox, caribou, musk-oxen, white wolf, walrus, white whale, narwhale, and four varieties of seal.

(4) Ethnology. Here is a tremendous field. The hours of every single day could be expended in noting the tales and traditions of the Smith Sound native; in studying the very difficult language; in anthropometric measurements; in jotting on the Sargent chart the physical development of both men and women; and in recording their music, their amusements, their philosophy, and their religion.

Other absorbing interests I need only mention by name: Magnetism, seismology, practical astronomy, tidal observations, measurement and growth of the sea ice, and temperature records.

To be happy in the North, and this I consider to be the greatest security against illness, it is necessary for one to have various interests. If a man is interested in one subject only, such as ornithology, what will be the result when the birds fly south in September to be gone for nine months? A new subject must be taken up with the changing seasons, thus bringing contentment and a forgetfulness of the great world to the south.

Those fall months of 1913 were the very busiest of the expedition, and every man was enthusiastic and eager to contribute something to the work. There was the home to build; rooms to be made comfortable; meteorological observations to be taken; day and night watches to stand, as a preventive against that equipment-devouring and plan-destroying enemy—fire; meat to get; provisions to be tumped over the rocks for a half-mile; and wireless and electric-light plants to be installed.

Thanksgiving Day, Thursday, November 27th, found us well and happy, and abnormally eager to begin upon the following menu:

Little Neck clam broth
Roast Greenland caribou, cranberry sauce
Turnips Potatoes
Apple pie Squash pie
Plum pudding
Grape-juice Coffee
Nuts and raisins McLeod fruit cake

An Eskimo boy clothed in spotless white waited on the table. After we were well rounded out with all these good things, thirty-five Eskimos were fed from the leavings, all looking supremely happy as the choice delicacies disappeared one by one.

SHOO-E-GING-WA AND HER PET

III

OUR FIRST WINTER

WHEN we landed at Etah I hoped we might be able to cross the Sound at least by the 1st of February, but as the days went on I could contain myself no longer and felt that something must be done. Although I had every reason to believe that a crossing of Smith Sound at this time would be impossible, I reasoned that it would be of great help to the work if an advance depot of supplies could be laid down some fifteen miles north of the point of crossing.

In former years there was always a strong tendency to delay the departure of an expedition until the warm days of spring. Living, as the men did, in tents, pulling their own sledges, and clothed in woolens, this was but natural. A sixty-below-zero wind coming into contact with hot, perspiring, tired men might easily defeat all the purposes for which an expedition was planned. The date for leaving winter quarters depends upon the nature of the work, the physical conditions of the country, and the length of the route. When following the indentations of a northern land, such work can well be continued until late in June and with profitable results, following the traveling upon the so-called ice-foot, the great natural highway of the North; but work

over stretches of water or out over the drift ice of the Polar Sea must cease by June 1st to insure the safety of the men. The sea ice at this time is rapidly disintegrating under the warm rays of the spring sun and drifting away toward the south in sheets, leaving large lanes of water, barriers to dog and sledge. The longer the route under such conditions, the earlier should be the start, in order that the party may reach home in good season.

On the return from our projected 1,400-mile trip, the dangerous waters of Smith Sound lay across our course, directly in sight of home. In certain years this stretch of water, under the stress of strong southerly gales, has broken up early and rapidly, and so much was to be done at Etah during the summer months that I could take no chances whatever of not getting back to Borup Lodge.

December 6th saw the beginning of my plan. Beneath the glow of a big electric light over our door our five sledges were being packed for the north, and four Eskimo sledges for the south. The dogs were yelping and tugging at their traces, impatient to be off; the Eskimos were shouting, the whips were snapping. At last work had begun! Oh, the joy of the whole thing! I envied Ekblaw and Green their initiatory ride as they snuggled up behind their drivers, ready to start with supplies for the first depot.

At ten in the evening of the 8th they were back, reporting excellent going, the depot established, the Sound apparently frozen, and a temperature at the cache of thirty-nine below zero—all of which seemed too good to be true. The bitter disappointment consequent upon the failure of our ship to land us at the head of

Flagler Bay was somewhat mitigated by the hope that we might possibly cross over the thin ice at this unprecedented time of year. "Rush" was the word before a southerly gale should break up the ice of Smith Sound. Clothing was dried. Repairs were made to sledges and harness. On the 11th they were off again, with orders to cross to Cape Sabine with full loads. From there they were to proceed well up Buchanan Bay and establish Depot B.

On the 15th the boys were back with the shout from Toi-tee-a, "We have killed five polar bears!" Fresh meat for our table and warm skins for our pants! And Depot B, to my joy, had been established at Cape Rutherford, some fifty miles to the west. This advance of 1,738 pounds of biscuit and pemmican over the thin ice of Smith Sound in the middle of the long night was the first great step toward the successful completion of our spring work. With this accomplished, we could now concentrate for the next six weeks upon the experimenting and perfecting of our field equipment.

Sledges were continually coming and going. Doctor Hunt left on the 14th in response to a call from an Eskimo to the south. Allen's illness on the 15th caused me considerable anxiety, necessitating a message to Doctor Hunt to return at once. He got back on the 19th, having covered the distance of 100 miles with Noo-ka-ping-wa and dog-team in two marches.

Jot Small stuck his head out of the door in October, pulled it in quickly, and declared that he was not going out again until spring! Threatened with scurvy and other dreadful Arctic diseases, he was prevailed upon to accompany Tanquary on a short trip south to the near-

est Eskimo village of Nerky. When they arrived at their first camp below Cape Alexander, at the old, uninhabited village of Sulwuddy, imagine their astonishment to find Ak-kom-mo-ding-wa, age fifty-seven, snugly ensconced in a new snow house with his temporarily exchanged wife, Ah-took-sung-wa. Panikpa, age fifty-six, was headed south on his honeymoon, equally as well pleased with his new acquisition. This interchange was for six days only!

On December 19th Kood-look-to, an old friend of the 1908 expedition, arrived from his igloo, 250 miles away, to pay his respects to the newly arrived visitors. He had learned from the Eskimos that I had tried to reach him with the ship in August, so he harnessed his dogs and started for Etah at once. I was glad to see this companion of my trip of 1908 to the most northern point of land in the world. He also accompanied me on my visit to Fort Conger in June of that year. I remember well how he stalked about the grounds in soldier's uniform and hand-bag! He found a bronze propeller, suspended it from a tripod, and banged it with a rock, awaking the echoes of the hills a dozen times a day. Wondering what he was up to one morning, I peeped into his tent, where was revealed to my astonished eyes a toy sledge drawn by three lemming and moving rapidly across the floor! How he laughed to see Jack, our sailor from the S.S. *Roosevelt*, from behind the corner of old Fort Conger, wriggling along cautiously on his belly through the snow for fifty yards, to shoot a dead duck comfortably seated upon an ice-cake—one we had placed there while Jack was asleep. Kood-look-to had much to tell me, but the chief item of interest was that he had found a meteorite near his igloo as large

THE BRIGHT, SNAPPY FACE OF AN ESKIMO CHILD

as our cooking-stove! He had promised this to Rasmussen for the Danish government.

At noon of the 21st, the shortest and darkest day of the year, we could easily detect a faint glow of light in the south. The true darkness of night is the result of a complete disappearance of all traces of twilight, which occurs when the sun reaches a point of eighteen degrees below the horizon. Our latitude was 78° 20′, therefore the sun at this time was only about twelve degrees below the horizon.

On Christmas Day we—including Tanquary and Jot, back from the south—sat down to a glorious dinner especially prepared and packed in New York by President Osborn of the American Museum of Natural History. The menu:

Cocktails
Mock-turtle soup
Roast turkey, cranberry sauce
Green corn on the cob
Plum pudding, brandy sauce
Pineapple Ginger
Nuts and Raisins
Coffee Cigars

Enrico Caruso, Melba, Schumann-Heink, Gogorza, Evan Williams, and other operatic stars were each introduced for our pleasure through the kindness of the Victrola Company.

In the evening, each one of our sixty-one Eskimo visitors received a portion of one of three large, delicious fruit cakes presented to me by my good friend, M. J. Look, of Kingston, New York, and each one exclaimed, "*Ma-much-to-suah!*" ("My, but that tastes good!") Hundreds of presents sent by my friends to these far-

away people were stacked upon the table. Never before had they had such a night. It will be a long-remembered Christmas for them all.

The new year of 1914 was ushered into Borup Lodge with a snap and a bang and a yell from our excited visitors. Three bunches of firecrackers were placed beneath a large inverted pan upon our center-table. The match was applied and the fun began, to be continued a few minutes later in front of the house, when all were supplied with firecrackers and slow matches! What a time they had! And what startling tricks they tried to play upon one another! Reluctantly and drowsily we went to our bunks at three in the morning, asking ourselves the question, "What has the new year in store for us?"

On the 3d, Ekblaw, our geologist, departed for the south to examine, at the request of Rasmussen, the meteorite Kood-look-to had found below Cape York. This is undoubtedly one of the great shower of stones which fell in that vicinity centuries ago. Peary secured three of these meteorites in 1896–97 and they are now on exhibition at the American Museum of Natural History in New York City.

On the 4th I left for a little run with my dogs to the village of Nerky, forty-five miles away. But my return on the 8th was not without an exciting incident. Cape Alexander is held in the icy embrace of the Crystal Palace Glacier, one arm of which dips into the sea to the north of the cape, and the other to the south. Sledges proceeding south from Etah never go around the cape, but cut off at least six miles by crossing this glacier, where the evil spirits certainly dwell if they dwell anywhere. The thrills experienced there during

the four years! It is a common and expected occurrence to go from a star-studded sky, a big full moon, and the weird stillness of the Arctic night, into a raging wind and a blinding, choking drift—conditions which often compel one to bury his tingling face deep in the furs topping the load and trust to the dogs for guidance. My first trip nearly cost me my life. Over-confident in my knowledge of Arctic sledge-work, I was leading my two Eskimos. As I reached the very summit I snapped out my long whip and yelled to the dogs for more speed. I got it! I thoroughly enjoyed that rush of air and the leap and bound of the sledge plunging down into the darkness, blissfully ignorant of the ice wall at the end of the trail and the forty-foot drop into the slush-covered sea; then suddenly the dark surface flashed up before me. Rush of wind, crunch of sledge, and yelps of dogs all seemed to mock my best efforts of whip and voice. On the very brink the team shot to the left up the snow-covered talus and so quickly that I was nearly snapped off into space. How the dogs laughed, wagged their tails, and rubbed their fine heads against my bearskin pants! The curses hurled at them a few seconds before because of their stupidity for rushing blindly into death gave way to words of endearment and appreciative stroking of their intelligent heads and lithe bodies.

In my five years' work among these dogs I have failed to find the species described by writers as "treacherous" or "vicious" or "ugly brutes." On the contrary, the full-blooded Eskimo dog is one of the most affectionate in the world. A hundred or more were often about our door. My men passed in and out among them without the least fear. Two hundred and fifty were berthed

on the deck of the *Roosevelt*. To walk for'ard it was often necessary to push them aside with the knees. Not a man was ever bitten. No man, woman, or child in the far North has ever been attacked, and not more than three or four in the whole tribe have ever been bitten.

These dogs are supposed to be the direct descendants of the northern gray or white wolf, which they greatly resemble, with the exception of the tightly curled tail. They are of various colors—black, white, brown, brindle, and gray—and they weigh from sixty to one hundred pounds. A team consists of from eight to twelve, each attached to the sledge by a sixteen-foot rawhide trace. The advantages of this arrangement are obvious. Seated on the sledge with a twenty-five-foot whip, one can reach out and touch the back of every dog, thereby keeping him in his place and exerting him to keep his trace tight. The disadvantages are the indirect pull of the dogs at the tips of the fan and the inevitable braiding of the traces into a rope as large as one's arm, the untangling of which at low temperature necessitates hours and hours of extreme discomfort.

Eighty pounds to a dog is a good load for the average sledging surface encountered on a long spring trip. The strength of the *driver* is to be equally considered with that of the dogs. Very often—a dozen times a day—one is called upon to wrestle with his sledge to save it from destruction. The load must be lifted bodily again and again in endeavoring to extricate the sledge from a troublesome crack in the ice or from the depths of a deep hole; while the dogs are wagging their tails or sitting on their haunches, much interested in the whole proceeding. Given the smooth, hard surface of a fiord, and my ten dogs could easily pull two thousand pounds.

SNOW IS AN EXCELLENT NON-CONDUCTOR

We were always comfortable at Borup Lodge, the headquarters of the Crocker Land Expedition.

But at the first obstruction, such as rough ice, the sledge would go to pieces; and if a hill or glacier was to be negotiated, then it would be necessary to unload and carry the cargo to the top piece by piece. Therefore, the question as to how much dogs can pull is a difficult one to answer, depending upon the qualities of the sledge, upon the distance to be traveled, upon the strength of the driver, upon the strength of the dogs, and again and always upon the *sledging surface.*

On the 1914 trip my ten dogs were pulling, upon leaving home, 625 pounds; on the 1917 trip they were handling 850.

But to get back to the glacier. On our return, in company with many visiting sledges, the descending northern slope was taken with the same speed, but with the comforting thought that the end was a soft snow-bank. When half-way down I looked back over my shoulder at Noo-ka-ping-wa's leaping team, and, to my horror, discovered We-we, his wife, clinging alone to the swaying load of bags and skins! Heavens! And she was to become a mother within a few days! What was he trying to do? Kill her? Rolling from the sledge, I turned and ran back up the slope, hoping to check the team with the whip. The dogs swerved down into the gully between the glacier and the cliff. A plunge, a leap of the sledge, a shower of sparks, and then all was still. An arm protruded from beneath the confused mass. As I lifted the sledge my gravest fears were quickly dispelled by a smothered laugh. She calmly informed me that she had had a very fast ride. My conclusion was that if her man wanted to kill her he must take an ax and catch her asleep!

IV

IN SEARCH OF CROCKER LAND

THERE were no eight-hour laws at Borup Lodge for the month of January, 1914; we were a busy munition-factory, working long overtime in preparation for the struggle to come. Sledges, stanch and strong, constructed of the best of oak, and lashed with the best of rawhide, issued one by one from the doors of the big workroom. As children are delighted with toys, so were the Eskimos as they gathered around these new productions, admiring the apparent strength, the graceful bows, and the raking upstanders. The hum of the blue-flame field-stove was almost incessant as the boys continually experimented and perfected the equipment upon which their comfort and health were to depend.

During the extremely low temperatures of February boiling-hot tea is a life-saver. Two other things only do we now consider necessary—biscuit and pemmican. And upon these three articles of food a man can do the hardest kind of physical work and remain perfectly well. Each of our two meals a day consisted of half a pound of biscuit and half a pound of pemmican. Pemmican is a Cree word, a term applied to a highly concentrated and nutritious food, consisting principally of two ingredients, dried meat and suet; but white men

and various tribes in Africa have added vegetables, oatmeal, raisins, currants, sugar, wild cherries, and even honey. Amundsen on his South Pole trip used a pemmican made of dried fish and lard.

Certain tribes of Hudson Bay know it under the name "thewhagon" and others call it "achees." In drying meat loses three-fourths of its moisture, yet retains all of its nutritive properties. As a result it becomes an extremely valuable food for the explorer, who is often compelled to carry food for a thousand miles or more and is forever confronted by that problem, "How can I lighten my load?"

In general, it can be said that pemmican is not palatable and not easily digested, but that made for the Crocker Land Expedition was delicious and satisfying. Put up in eight-pound tins for the dogs and six-pound for the men, it was easily handled for transportation. With a clip of the ax the frozen block was readily divided for consumption at the end of the march. And every crumb was picked and lapped from the snow!

Each man was clothed in the conventional dress of the Smith Sound Eskimo—caribou-skin coat, bearskin pants, seal, caribou, and bearskin boots, and hareskin stockings. For the last we substituted sheepskin, sacrificing but little warmth for a tremendous increase in durability. Boots made of the skin of the forelegs of a polar bear, with a sole of the bearded, or thong, seal, are undeniably the warmest product of the northern Eskimo shoemaker.

At moderately low temperatures, twenty and thirty below, a boot of the forelegs of the caribou is very satisfactory. The sealskin boot, called the kamik, is the boot in general use among the Eskimos of Smith Sound.

The sole of all the boots is made from the extremely tough skin of the bearded seal (*Erignathus barbatus*).

Beneath the fur clothing we wore a light suit of woolen to prevent chafing and to absorb perspiration. If one is clothed in this manner and is *dry*, he can lie in the snow and sleep in perfect comfort at fifty and sixty below zero. I believe Peary was the first Arctic explorer to attempt work during the extremely low temperature of February and March without a sleeping-bag. We adopted the Peary method on many of our journeys. We contracted slightly the fur-bordered opening of the hood; bound the bottom of our caribou-skin coats tightly between our legs; withdrew our arms and placed them upon the warm body; tucked the ever-to-be-desired mittens into the empty sleeves; and then, with a hunch of the shoulder, placed the sleeve over the face to protect it from freezing.

Sleeping in this manner, one is ever ready for an emergency call, such as the inevitable rush of one's dogs, which frequently break the fastenings; the visit of a polar bear; or the not remote possibility of the cracking of the sea ice, resulting in a slowly widening fissure beneath the bed. The last contingency may have been the cause of the loss of Captain Cagni's first supporting party, which was returning under the command of Lieutenant Querini from a point of eighty-eight miles offshore. Not a trace of the three men or their equipment was ever found.

The adage of the woolen-clothed explorer of a half a century ago, "To sleep means death," has lost its meaning. It would be absolutely impossible for a man clothed as we were to freeze to death.

We tested the strength and fitness of every item of

NO PLATES OR FORKS IN THE NORTH. THE MEAT IS MEASURED IN THE MOUTH AND CUT AT THE LIPS

NARWHAL. THE RAW SKIN IS PRIZED AS A DELICACY

From the thread meat of the back the Eskimo women obtain sinew for sewing.

our equipment again and again. The smallest detail received as much consideration as the largest. "Look for the best, but be prepared for the worst," should be the motto of the Arctic man. To economize in weight, all tins of pemmican were removed from the cases, to be packed in long, rectangular canvas bags fitted to the bottom of our sledges. To guard against a possible breaking up of the sea ice around Sunrise Point, four miles to the west, which would necessitate an overland trip, all loads were advanced up the coast to Cape Ohlsen, six miles distant. The increasing brightness of the southern skies in January witnessed our preparations being rushed to completion. Ekblaw arrived home from his southern trip on the 21st, much more welcome than the news which he brought with him—influenza and mumps had arrived from Upernavik with the mail a few weeks before, and were traveling toward Etah. His swollen face a few days later and the vomiting of Green heralded the arrival of the minor plagues.

But I would permit nothing to interfere with our plans. If the dogs could walk, then we would start in early February. As the Eskimos arrived day by day, it was very evident that many of the men were not fit for the work ahead of them; but there was not a word of complaint; they were all eager for the adventure.

There are distinct advantages to be gained by despatching the various divisions of a large expedition upon successive days. With the departure of only three or four sledges at a time, the smallest detail pertaining to equipment is attended to. Bustle and excitement are avoided. The advance party picks and breaks the trail, and, what is of great importance, builds

a snow house which is occupied by every succeeding division, thus saving time and labor.

Green and Ah-pellah got away on February 7th, with their two divisions—seven sledges—with orders to take on full loads of 500 pounds each at Ka-mowitz, fifteen miles north of Etah, cross Smith Sound, and proceed on toward the musk-ox grounds of Eureka Sound in Ellesmere Land. Here we were to rendezvous, eliminate and send back the least desirable men and dogs, and then push on toward the Polar Sea.

The departure of the advance party was signaled the night before by an explosion in an Eskimo igloo. Why it was not attended by more serious results is hard to understand. Both our kerosene and gasolene were packed in five-gallon tins, two tins in a case, plainly marked, and well understood by our Eskimos. Tau-ching-wa, groping in the dark in search of kerosene-oil, seized by mistake five gallons of gasolene. With his big igloo full of Eskimos, he cut a good-sized hole in the top of the can with his knife and then proceeded to fill a large burning oil-heater! When what happened was over, our Eskimo neighbors were considerably bunched in various nooks and corners of their primitive home. The various parts of the stove were never assembled; nor, in fact, of Tau-ching-wa, since much of his hair was gone and practically all the skin from his face. Henceforth, that particular brand of oil, which was a bit "too quick," was designated as the "*Tau-ching-wa ook-sook*" ("Tau-ching-wa oil").

On the 8th Tanquary left with his division. A beautiful day, seventeen below zero, and no wind. He was followed by Ekblaw and his Eskimos on the 9th, and Hunt and his division on the 10th. With the latter

went badly scorched Tau-ching-wa, looking like a very demon and wearing a hideous-looking cloth mask, beneath which I knew there was a grin in spite of the forthcoming sixty below zero and the hardships of the trail.

Stretching out before me to the westward there were now nineteen men and fifteen sledges drawn by 165 dogs, headed toward that great unknown sector of the Polar Sea, consisting of half a million square miles. The distance from Etah to the edge of this white spot by air line is 483 statute miles.

A war of wind and drifting snow on the 11th precluded all thought of my division leaving. Excellent weather on the 12th saw Pee-a-wah-to, Peary's able assistant, Mene, the Eskimo boy who was brought to New York in 1896, and myself galloping away with empty sledges to join the main party far in advance. At Sunrise Point we found the ice-foot, our highway northward, overflowed by an exceptionally high tide, which, upon the ebb, would result in a wet, salty surface, injurious to the feet of our dogs, and a freezing of our traces into iron rods. I concluded, therefore, that the next day, although it was Friday, the 13th, would be far preferable for the beginning of our long journey. With a good start, good going, and dogs in fine condition, we made Ka-mowitz the next day in three hours. Here at our first camp the thermometer registered forty-eight below zero, Fahrenheit. We found that all supplies had been moved across the Sound by the advance sledges, enabling us the next day to run across, with very light loads, in six hours to Payer Harbor at Cape Sabine.

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Inglefield, R.N., the first explorer to enter the portals of Smith Sound, this cape has played a large part in Arctic history, witnessing the passing of the ships of three nations in their endeavors to penetrate into the unknown and plant their country's flag at "Farthest North." As we groped with numbed fingers in the gathering darkness amid the rocks, seeking a shelter for the dogs, my mind was filled with incidents of the past connected with this inhospitable place. We readily found Peary's old hut, headquarters of his 1900 North Polar Expedition. Dark, damp, and dirty; no floors, no windows, no ceiling; a cracked stove, a more than cracked stovepipe; and a non-closing door—it was not a bit inviting for a night's rest!

We were glad to get out in the morning on the smooth ice of Rice Strait, which separates Bedford Pim Island from the mainland. The cutting wind, which seems to be ever rushing through this pass, compelled us to lie low on our sledges with faces buried in the furs to prevent frost-bite. In a few hours we reached the big cache at Cape Rutherford, at the entrance to Buchanan Bay, where we loaded our sledges to the limit. It was now push, pull, and yell at the dogs as they plodded through rough ice and deep snow for a mile or two before taking the ice-foot, where we found excellent going. Pemmican-tins, stained snow, and hitching-holes for the dogs betrayed where the advance divisions had slept on their sledges, finding no snow suitable for igloos. It looked like spending a night out of doors at fifty below, not an inviting prospect when one is covered with sweat. We shivered in the lee of our loads, pounded our toes, and impatiently watched our blue-flame stove as it struggled to convert ice into boiling

UP THE FACE OF THE BEITSTAD GLACIER

We perspired freely at —50° Fahrenheit.

tea. Fortified with this beverage, along with pemmican and biscuit, we were soon asleep with our backs against the sledges.

As we were crossing Alexandra Fiord we received our first premonition of trouble. We passed two dead dogs on the trail, far too early in our undertaking for such an occurrence. A few hours later, in a jog in the ice-foot, we came upon two boxes of biscuit, a pair of snow-shoes, and a note from Doctor Hunt stating that he had slept there three nights with a sick Eskimo and was leaving that morning. There was still no snow for a snow house, so we endeavored to heat up a few cubic feet of air-space by building a fire out of our biscuit-boxes. Placing our sleeping-bags on the snow near the fire, we crawled in for what we thought would be a good night's sleep. A few hours later I awoke choking for breath, and discovered, to my astonishment, that my bag and sheepskin shirt were blazing merrily. I was warm at last!

A few hours' traveling in the morning brought us in sight of the doctor and his Eskimo, whose face was badly swollen with the mumps. Although he was unable to walk, he was game and wanted to go on. As this Eskimo was one of my best men, I relieved him of a large part of his load and ordered him to stick to the sledge until he felt better. Within an hour we came up with the whole party encamped in snow igloos in the middle of Hayes Sound. Some had influenza, some had the mumps, and some had cold feet literally and figuratively; nearly all refused to go on, stating that the dogs were weak, unable to pull an ordinary load, and would probably all die on the big glacier of Ellesmere Land, over which we had to cross in order to reach the

head of Bay Fiord, seventy-five miles to the west. All the Eskimos strongly advised returning to Etah, feeding up the dogs on walrus meat, and trying it again later.

Fortunately it was so early in the year that we could do this without endangering the success of the expedition. I decided to retreat to Etah and there eliminate the sick, the chicken-hearted, and the older and, consequently, the more influential Eskimos, who were apparently very much concerned over the fact that their dogs might die and thus compel them to walk a few hundred miles. In a discussion of this nature the younger men of the party always listen respectfully to the opinion of their elders and do as they advise. Young Eskimos for a long and dangerous trip are much to be preferred, as they are fond of adventure and willing to take a chance, while the older men wish to make certain of getting home.

I placed the sick in charge of Hunt and Green, with orders to stand by them until they were able to travel, and we started back the next day with light sledges, leaving our supplies and equipment in cache in Hayes Sound. The dogs of my division were in fine fettle, and covered the ninety miles in two marches, making Etah on the second day. From the sixteen Eskimos I picked out seven who appeared to me to be of the right stuff and who, I thought, would go the limit.

From the four members of the expedition who were physically fitted for field-work I selected two, Ekblaw and Green; the former for his knowledge of geology and botany, both valuable assets in the discovery of new land; and the latter for his knowledge of practical astronomy, in which subject all Annapolis graduates are exceedingly well trained. I felt that our observa-

WHEN IS HE COMING WITH THE GRUB?

tions for longitude, latitude, and azimuth could not be in error with such a valuable assistant. These two men were immediately supplied with dog-teams, and preparations were made for a second attempt.

Walrus meat is without question the very best of food upon which to condition a Smith Sound dog. Our Eskimos were sent to Peteravik, the site of the annual spring encampment of the natives, with orders to kill walrus and trade for as much meat as possible. It was very hard to be patient as I watched those precious days passing away one by one; days which were added to the other end of our journey—the doubtful end because of uncertain ice conditions in Smith Sound. The dogs were getting stronger, however, and would, I felt sure, make up during the warmer months for time lost now.

On March 10th four heavily loaded teams sped out of Etah with instructions to the drivers to proceed to Cape Sabine, encamp, thaw out the frozen walrus meat on their sledges, cut it up, and have all ready for our arrival the following day. Although the 11th was not favorable for traveling—a gale from the north, with drifting snow and the thermometer at thirty-one below zero—we felt that not a day should be lost, as it was now late in the year for a 1,200-mile trip, 300 miles of which were over the ice of the Polar Sea, which would soon be breaking up. That night frost-bitten cheeks attested to the severity of the weather. Another run across the Sound in six hours brought us to the hut at Payer Harbor, where the Eskimos greeted us with the cry, "We have killed a bear!" This was good news, not so much because we needed the meat, but for the spirit of good-fellowship which always follows a killing when on the trail.

In two marches we were at the big cache at the entrance to Hayes Sound, where we found everything as we had left it some weeks before. We were now ready for the crossing of Ellesmere Land. The regular pass is at the head of Flagler Bay, where, as shown by the tent sites, the *Innuits* (Eskimos) have crossed for centuries. But my Eskimos advised crossing the glacier at the head of Beitstad Fiord. I was easily persuaded to adopt this plan, as I knew very well the experiences of Sverdrup in the Flagler Pass in 1899. If he were ever called upon to repeat that trip, I know that he would fit his sledges with wheels! Boulders and windswept stretches of bare ground are daily entries in his journal.

We proceeded with very heavy sledges southwest into Hayes Sound and camped at the mouth of Beitstad Fiord. Noon on the following day found us looking up at an almost vertical wall of ice, the front of the Beitstad Glacier, which stretches across Ellesmere Land from sea to sea, a distance of more than fifty miles. How we were ever to get up there I did not know. Pee-a-wah-to and Kai-o-ta walked along the base of the glacier, laughing and joking, but at the same time critically examining every square foot of it. In the same leisurely manner they began cutting into the face of it with their hatchets to secure a good grip for the hands and a good step for the feet; then up they went until they stood on the crest, some fifty feet above the ground. It was now getting dark. We burrowed for shelter into the base of a large snowbank at the foot of the glacier, and were soon resting for the strenuous work of the morrow.

All the next day we were busy carrying our supplies

and equipment far back on the slope of the ice. E-took-a-shoo, who simply loved hard work, put a tump-line on his 125-pound sledge and started up the ice steps. I said to myself, "He will never get there." But he did, smiling and sweating. Two of the other men attempted the same feat, one failing and one succeeding. At dusk we had transferred over 4,000 pounds to the surface of the ice, ready for loading the next day. That night the Eskimos gathered around Pee-a-wah-to, the only man who had gone over the glacier, to learn what it was like, how far it was, if there were any more such hard work, and if we could get back before the Sound broke up in the spring. The next morning Mene Wallace, the New York Eskimo, decided that hard work did not agree with him and that he wanted to go home. I knew that my Eskimos would all be the happier for his going, and so I did not try to dissuade him. As he rounded the point, about an hour later, Ekblaw detected two sledges instead of one, and yelled to me, "Did you know that Tau-ching-wa had gone, too?" At first I could not believe it, and thought he was upon the glacier. A hurried search failed to find him. I learned the reason for his hasty departure that night when supper was ended and gossip and tobacco smoke were equally thick. Tau-ching-wa had a pretty wife. Mene certainly thought so; therefore he decided to return to Etah, where he might enjoy her company. Tau-ching-wa, unsuspecting, would go on with me and be absent for several weeks. After Mene had gone, one of the boys whispered into Tau-ching-wa's ear; as a consequence, I lost Tau-ching-wa. He didn't bother to climb the glacier and state his reasons for going. His wife was at stake, and off he went.

The withdrawal of these two men with their sixteen dogs reduced the total amount of food which could be transported over the glacier to a dangerous limit. The success of the trip now depended upon our finding game on the other side. Our loads were now so heavy, and the gradient so steep and slippery, that it was only by the very hardest kind of effort and free use of the whip that the dogs could be induced to move at all. The slope was more gentle and the going much better after we had surmounted the first ice, and we were able to reach the summit in a little over two days. Here we built two snow igloos at an altitude of 4,750 feet, with the temperature at fifty below zero. Although the snow was hard and wind-swept, showing the prevalence of violent winds here in the mountains, we were fortunate in having absolutely calm weather. Green informed me in the evening that Ekblaw had frozen his feet and asked me to look at them. I found the ball of one foot badly blistered and the big toe swollen and waxy in appearance. Naturally Ekblaw was worried, for the Eskimos had told him that it was just like "Peary-akswah's" foot some years ago, when he lost all his toes. I hated to lose such a good man, and decided to hold on to him as long as I could, not considering his frost-bite nearly so serious as the natives would have us think. They are mortally afraid of having their feet frost-bitten, nursing them as tenderly as a mother would her youngest child. I have seen tough old Ootah, mounted on top of his load, with boot off, at sixty below zero, holding his toes in his warm hand and with a worried look on his face. Frozen cheeks, nose, or ears are of little concern; one can still go on, but when a man's feet are frozen he is through.

We felt, as we packed our sledges on the morning of the 20th, that our troubles were over. The crest of the glacier was but a few miles beyond. In a few hours we commanded a good view of this western land, with its towering snow-capped peaks, its deep valleys and winding glaciers, and far to the west, dimly outlined in the haze, we could make out the smooth ice of Eureka Sound. Our glacier led straight on into the west down through a magnificent range of hills into which no man had ever penetrated. Reluctantly we left this long, white path for a valley leading to the northwest and more in line with our course to the Polar Sea.

Our Eskimos were determined to make Bay Fiord in one march, so we toiled on for sixteen hours, first down into what appeared to be the old bed of a lake, and then making the mistake of turning to the right instead of to the left, which led us along the sloping side of a glacier through deep snow, concealing crevasses into which our dogs fell repeatedly, warning us against a similar fate. We reached the face of the glacier, tired and hungry, but although we searched long and earnestly, we failed to find any part of it which would permit a descent without risk of life. Finally, Pee-a-wah-to returned with the encouraging news that he had discovered an old river-bed through which we might possibly lower everything with ropes.

At daylight we inspected the ravine in the ice, cut by running water during the spring. Fortunately its bottom was covered with about a foot of compact snow which enabled us to keep our footing while working with the dogs, sledges, and ropes. A long strong rope made from the heavy skin of the thong seal (*Erignathus barbatus*) was fastened to an eye cut in the solid blue

ice. We lowered everything carefully to the surface of the sea ice without mishap. One sledge, however, ran amuck and buried its short rounded nose deep into the debris below the face of the glacier. But it was not seriously injured.

After we had traveled a few miles down the fiord we found the snow trampled and crisscrossed in all directions by the tracks of musk-oxen. We were all now on the alert, the dogs with heads up, sniffing the air, running their noses deep into the footprints in the snow, the men scanning the slope of every hill. In a few minutes we reached a point which commanded a view of the whole fiord, and here Pee-a-wah-to thought it best to camp, assuring us that we would certainly find musk-oxen within a few hours.

In the morning the first man out of the igloo yelled: "*Oo-ming-much-suit!*" ("Musk-oxen!"). There they were! five black dots on a sloping white hillside and strikingly resembling five black rocks. A strange anomaly! A black animal in the white North and yet wonderfully protected by its color! This similarity to boulders is heightened considerably by the presence of the whitish spot on the back. The musk-ox grazes in wind-swept areas which consist of bare ground, patches of snow, and boulders, and the tops of the latter may be lightly sprinkled with snow. We have often halted our dogs and scrutinized with powerful binoculars the dark spots on such a field, unable to discriminate between boulders and musk-oxen, motion being the only deciding factor.

As these rocks slowly changed their relative positions, we were compelled to admit that they must be alive. Arklio and Pee-a-wah-to immediately doubled up their

dogs for speed, hitching them to one sledge, and grabbed their rifles. The other Eskimos at once set off in different directions to scour the hills. The team made its way leisurely across the fiord; they had not yet sighted or smelled the animals. As I watched through the field-glasses, one musk-ox started directly up the almost vertical slope, immediately followed by the four others and two more which we had not seen. It was hard to believe that the black line behind them, going with such incredible speed, could be our dogs pulling some six hundred pounds. They were now a band of wolves with fresh meat in sight, and nothing could stop them; sand, rocks, boulders, and snow seemed to be taken without effort. A wild ride behind a good fast team of dogs in pursuit of a bear or a musk-ox is one of the joys of this world, and certainly compensates for much of the discomfort of Arctic work. As the dogs stopped at the foot of the talus, we could see the three men slowly making their way up the slope to get within rifle range. Before the report of the first shot reached our ears, we saw a black object rolling rapidly down the hill, indicating that the slaughter had begun. Knowing that one sledge could not possibly bring all the meat to camp, Green and I harnessed up our dogs and ran over to where we found the two Eskimos busily skinning and cutting up the seven musk-ox they had killed.

Plenty of meat now for dogs and men put every one in good spirits, enabling us to save our pemmican for the Polar Sea. I had repeatedly been assured by the Eskimos that it would be possible to subsist upon the country from the head of Bay Fiord to Cape Thomas Hubbard. This optimistic view of things I could not accept; therefore I planned to use pemmican for half the

distance, hoping to secure game enough for the other half. As I viewed the large pile of red meat around our igloos, I felt that we had certainly made a good start.

Now that our loads were safely across Ellesmere Land, my supporting party was no longer needed; I could dispense with at least two of the sledges. In the morning Ekblaw and Kai-o-ta started back for Etah. With them went Green, Noo-ka-ping-wa, and Arklio, with orders to load up at the big cache in Hayes Sound with oil and pemmican and rejoin me at Cape Thomas Hubbard. In the mean time I was to go on slowly, laying in caches of meat on the trail for use during our return trip.

As we swung across to the north side of Bay Fiord on the 25th, two large white wolves loped along behind us just out of range, finally disappearing in the rough ice in the middle of the Sound. At the end of this march I feared that the Eskimos were altogether too optimistic when they declared that we could live on the country. Two days now, and not a sign of a musk-ox. Reluctantly I told the boys to feed a pound of pemmican to each dog. Although they had not been fed for two days, they had quietly lain down and gone to sleep, as was their custom when hitched to the ice-foot; not a whine or a bark or a look in our direction indicated that they were hungry. What keeps an Eskimo dog alive and going for days and days and days I do not know. I have been informed by the Eskimos that they have known dogs to travel eight and ten days without food. Such a period of fasting is a common occurrence every fall when on the annual caribou-hunt south of the Humboldt Glacier and when hunting bears south of Cape Isabella.

The deep snows on the northern side of Bay Fiord,

Photo by Ekblaw

HERD OF MUSK-OXEN

Among the big white hills we find the very best of meat.

which ran east and west, were an indication of strong northerly prevailing winds out in Eureka Sound, toward which we were headed and which extended across our course at right angles. Once out from under the lee of the high hills and facing the wind, we should find the ice swept clean of snow.

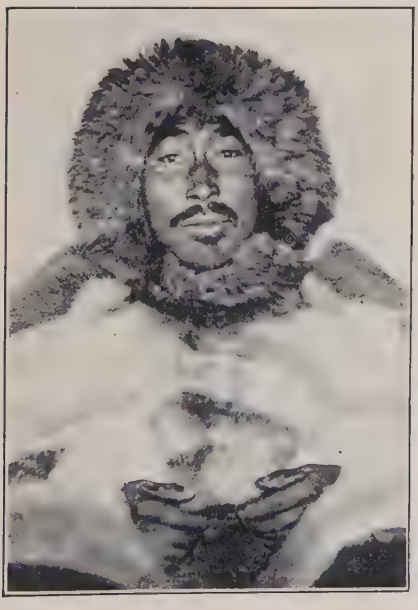
The next morning we continued on through heavy going until the dogs began to smell seal-holes, and then there was a rush from hole to hole along the ice-foot. The huge footprints of a polar bear and a bloody track through the snow were evidence that the "tiger of the North" had succeeded in capturing a seal. The dogs were now fairly excited, dashing along with heads and tails up, whining and yelping. In a few minutes a white wolf, so large that we all thought it was a bear, bounded out of the ice-foot and took to the side-hill, every twenty yards or so stopping to look us over carefully, wondering what kind of strange animals we were. The sledges fairly leaped through the rough ice of the tidal crack, but came to a sudden stop in the grit a short distance from the shore. Pee-a-wah-to seized his rifle, ran to the crest of a little knoll, dropped to one knee, and fired. I have never seen a better shot. The animal at the time was going at full speed away from him at a distance of about one hundred yards. The bullet passed completely up through his body, turned him over, and left him a crumpled mass without a quiver. I examined this first white wolf with interest. He was larger than the Eskimo dog, which is supposed to be his descendant, although not so thick-set. We removed the skin as a specimen for the American Museum. The dogs sniffed at the red flesh for some time, but finally walked away, recognizing their near relative from the smell.

The bear tracks continued up the Sound, and the dogs were again hot on the trail. Astride the sledges, with rifles across our legs, we closely scanned every hummock of ice, every crack and crevice. At last, disappointed, we were forced to give it up, and pulled in toward the ice-foot to find suitable snow for an igloo. The dogs had worked long and well. I could not refuse them; they would have their pound of pemmican, anyway. As we sat there on our sledges, too lazy or too tired to begin cutting snow blocks for a house, Pee-a-wah-to, whose little black eyes were ever roaming over the hills, uttered an exclamation of surprise, followed by a long, deep "*Tak-koo!*" ("Look!"). There, right above our heads, sound asleep, were three woolly bodies. Our musk-oxen had come into our camp and were patiently waiting for us. The two Eskimo boys fairly beamed, repeating over and over again: "Well, well! Right alongside of us!" White men would have gone up at once and made sure of their game; not so with E-took-a-shoo and Pee-a-wah-to. As if they had all the time in the world and meat were of no value, they deliberately harnessed their dogs, just as deliberately lit their pipes, laughed, joked, and talked of things a hundred miles away. You can imagine how constantly I kept my eye on those three black balls which meant so much to me, although only meat to them. With food we could do anything and everything; without it we would be compelled to go home, and home did not have any attractions for me just then.

Finally, the snow blocks were cut, the house built, furs inside, and the stove humming, and off they started, leading one dog only—the one which they could best afford to lose, for musk-ox horns are sharp and inflict

E-TOOK-A-SHOO

NOO-KA-PING-WA



AK-POOD-A-SHAH-O

ARKLIO

FOUR OF OUR FAITHFUL NATIVES WHO DESERVE THE CREDIT FOR OUR TEN THOUSAND MILES OF SLEDGE-WORK

ugly wounds. Skirting the hill, they came upon the animals from the rear, thus cutting off their retreat. At the first report of the rifles three musk-oxen were outlined against the sky, then four, then five! There was no escape. I knew they were ours.

The next morning we drove our dogs to the base of the cliff over which the Eskimos had rolled the bodies, and there we had the comforting satisfaction of seeing the dogs eat to repletion. Half the day was consumed in skinning and cutting up these five animals and sledging the meat down to the igloo; therefore we decided to spend the rest of it in drying our boots, skeepskin stockings, and sleeping-bags.

The following is an extract from my diary:

Saturday, March 28th. Eighteenth day.—A perfect day and perfect going enabled us to cover at least twenty-five miles. The whole Sound has been so swept by strong northerly winds that the smooth surface of the new ice is covered with an inch layer of hard snow. Pee-a-wah-to's old rat-tail dogs can smell a seal a mile away; they have kept us on the jump all day. About five miles below here, while resting our dogs, we shot eleven hare, giving three to each team and keeping two for our supper.

Sunday, March 29th. Nineteenth day.—We are in 80° north latitude to-night, having covered a whole degree in two days. Perfect sledging all day long, continuing just as far as we can see. Another large white wolf is added to our game list to-day. We were following the tracks of a large bear when he jumped out of the ice-foot. These wolves are so large that we were again deceived, judging it to be a bear. My dogs leaped ahead at the sound of Pee-a-wah-to's rifle, arriving in time to see the wolf take to the ice and start for the middle of the Sound, covered with blood. Crawling out to the front of the sledge, I slipped the knot which held the whole team, and away they went at full speed, but before they reached him Pee-a-wah-to fired again, dropping him dead.

On the way across to Blaamanden to-day a blue fox crossed in front of our teams. Had the fox been going our way we should have made a record march, but as it was he had our ill-will for some hours afterward. To stop or control Eskimo dogs with the

tail of a blue fox waving in their faces would be like stopping the world from going around. The *komatiks* (sledges) fairly leaped through space. Such a sudden and unexpected rush caught us all unawares; pipes, tobacco, matches, pieces of frozen meat—everything not tied on was left lying along the trail. The fox trotted along slowly at first, now and then looking back over his shoulder, as if saying to himself, "I wonder if they are really after me?" As the dogs approached, he quickened his pace a bit as if to tease them; then, to show them that he could run, he turned into a bounding black ball which quickly faded away to a tiny speck in the distance. The dogs slowed down, looked foolish, then turned their heads to us as if to ask, "What was that?" It is said that these foxes can catch Arctic hares. If so, that one will live for a long time yet!

From the Fosheim Peninsula we headed across Eureka Sound for Skraelingodden on the morning of the 30th. A heavy mist hanging low over the fiord, in combination with a light northeast wind, gave us warning of an approaching storm. This point marked the end of our good sledging and good weather. As we rounded Skraelingodden our hitherto light wind freshened to a strong breeze; at forty below zero it seemed to go right through us. However, plodding through ankle-deep snow all the way to Schei Island, and running ahead of the dogs to increase our speed, soon warmed us up. It was drifting and blowing so hard as we approached the island that we could scarcely make out its outline. Unable to find snow suitable for building an igloo, we continued on toward the south, looking for shelter. After traveling a short distance, we discovered that there was land on both sides of us; we had either entered an inlet and were in a cul-de-sac or there were low-lying islands off the southern point of the island which the map of Sverdrup did not show. The shelving shore to the north offered no shelter what-

ever, and shelter we must have. Our clothes were driven completely full of snow.

At last, to our relief, E-took-a-shoo prodded with his whip-stock down into the snow and announced it suitable for building purposes. Our igloo up, the next thought was for our dogs, which were now nearly buried in the white drift. A lee was lacking in this wind-swept area; therefore we constructed a semicircular windbreak from snow blocks, and the tired dogs huddled close up to it and were soon sound asleep. We pounded the snow out of our bearskin pants and out of our sheepskin coats with the snow-beater as well as we could under the circumstances. Once inside of an igloo, the door tightly closed with a snow block and the stove humming, there is a feeling of perfect contentment which comes to a man after a long day's march. We decided to remain here for a few days. Our dogs must have fresh meat, and the dogs of our supporting party, which was doing its best to catch us, were depending upon it.

At noon the next day there was every promise of clear weather. The boys harnessed their dogs and were off to the westward to look for a passage through the island and for musk-ox tracks. At midnight they were back. Sure of their success, I yelled out through the peep-hole in the front of the igloo, "How many?" "*Ah-meg-you-lock-suit!*" was the immediate reply—"a great many." But how many I did not know until E-took-a-shoo, who could not count more than twenty, indicated by holding up his fingers that they had killed thirty-five! Like savages they had slaughtered the whole herd for the pure love of killing, although they knew that we could not possibly use so many.

On their sledges were the quarters of a musk-ox for my dogs, who were now sitting up and wondering what had happened. Their old friends in the other teams could hardly be recognized; they were so distended that they could barely get into camp. In through the door of the igloo came hearts, tongues, livers, and juicy tenderloins. What a feast!

I thought we had better move while we could. I ordered the men to pack up their sledges and drive over to the battle-field. After we had gone a short distance, a yell from Pee-a-wah-to turned our attention toward the south. Could we believe our eyes? It was like a picture from one of the old books on travel in Siberia. Twelve white wolves were leaping over the snow directly at us. Fiction would have us now fighting for our lives, knives between teeth and rifles constantly going. On the contrary, we prayed that they would not stop, but keep coming on. Undoubtedly they would have done so had we been able to control our dogs, who were now wild with excitement, whining, yelping, and straining on the traces. We shouted and threatened, and lashed with the whip, at the same time holding back with all our strength on the upstanders of the sledge. The leader of the band stopped, surveyed us critically for an instant, and wheeled around, followed by the others. By the time that we could tear the covers from the rifles they were out of range.

I have no compunction whatever in shooting at these sneaking cowards of the animal world. Axel Heiberg Land is infested with them, their tracks being found intermingling with those of the musk-ox and white caribou. A mother and her young are surrounded, worried to death, and torn into pieces. During Sverdrup's

CONSTRUCTING A SNOW HOUSE

In about one hour our home for the night, consisting of some fifty blocks, will be ready for occupancy.

OUR CAMP AT CAPE ISABELLA, MAY, 1917

Note our fur coats on top of igloo out of reach of stray dogs.

expedition the wolves came into camp, attacked and killed some of the dogs, and later, on the trail, even attacked one of the men who had no other weapon to defend himself with than a ski. No animal in the North is so enduring, none has such a wide range, and none passes an easier existence than the Arctic wolf. Their food is musk-oxen, caribou, Arctic hare, lemmings, and possibly foxes. There is also every evidence to believe that wolves prey upon seals along the ice-foot.

Proceeding for about half an hour, we reached a well-sheltered spot with southern exposure near the slain musk-oxen. Here the two boys constructed a beautiful igloo, with high-bed platform, gently sloping walls, and an almost flat roof, the sixty blocks interlocking in a rather artistic design. It is a pleasure to see an Eskimo cut and handle snow. One cannot but admire the skill and dexterity with which he cuts it on the surface, breaks it out with his toe, lays it up on the wall, bevels the edges, and thumps it into place with his hand. I wonder if there are any other people in the world who attempt to build an arch or dome without support. Starting from the ground in a spiral from right to left, the blocks mount higher and higher, ever assuming a more horizontal position, until the last two or three appear to hang in the air, the last block locking the whole structure. This work can be done by two good men in about an hour.

Entering a newly constructed igloo seems like a vision of fairy-land, the light filtering through the snow a beautiful ethereal blue; everything—the bed, the two side platforms, the wall—absolutely spotless. At low temperatures such a retreat is so far superior to a tent as to cause one to regret exceedingly that the brave

fellows of old, who struggled over frozen tents with frozen fingers, could not have availed themselves of the services of these architects of the North. During a gale, the incessant banging and slatting of the walls of a tent precludes all conversation and interferes seriously with much-needed rest. If snow is drifting, the sides collapse under the accumulated weight to such a degree that it is hardly possible for one man to sit upright in the center of the tent, and the remainder of the party are compelled to lie in their bags. Once in a snow house, with the door closed, it is as still as death, snow being an excellent non-conductor, while drifting snows without only add to the warmth and security.

Our four days at Schei Island stand out as one of the bright spots of our trip—a large, well-warmed, and well-lighted igloo, plenty of food, and a wealth of fresh meat for the dogs. Two Eskimo lamps, made of oil-tins, canvas, and musk-ox fat, burned night and day, drying mittens, boots, and stockings. During low temperatures too much care cannot be exercised in keeping one's clothes dry. Experience is the great teacher; and he who follows its precepts will return with fingers and toes. How we suffered on that Peary trip! More in one month than I did the last four years of Arctic work! Reason—inexperience.

For the man in furs there is one maxim which must be rigidly adhered to, anomalous as it may seem: Do not permit the body to be *overheated* at fifty, sixty, or seventy below zero. It is heat that kills in the Arctic, not cold. My most miserable hours in the far North have been not when encountering low temperatures or facing a cutting drift, but in the shelter of a tight snow house after the day's work was ended, when with

shivering body and chattering teeth I attempted sleep with underclothes *reeking wet from perspiration.*

And a second maxim: Use the snow-beater vigorously and thoroughly. If driven snow is permitted to remain in the fur that snow will melt. Result—a heavy, wet, and then a frozen garment.

Leaving instructions in this igloo for Green to feed his dogs, hold to his loads, and come on as quickly as possible, we started on for Hvitberget (White Mountain). As we swung around the corner of the island, its high, white head was the most conspicuous point on the northern horizon. We sighted another herd of musk-oxen on our right feeding on the frozen grass on the slope of a wind-swept hill. I was glad that we were not compelled to break into their quiet life. Our dogs were now so full that it would be some hours before we could speed them up to good work. Heavy going in the lee of the island and a strong head wind as we crossed the Sound made things a bit unpleasant; however, we made the twenty miles in about seven hours. While resting the dogs for a moment, both Eskimos rushed toward a little knoll, where they engaged in a friendly tussle over something on the ground. In answer to my inquiry, they yelled back, "*Pemmican, eemu tau!*" ("Pemmican and milk"). The pemmican was American, but the milk was Norwegian. Only two men had preceded us along this coast, Dr. Frederick A. Cook in 1908 and Sverdrup in 1900. We had undoubtedly come upon one of Sverdrup's caches which he placed here twelve years before; it was still in good condition. As there were only two cans of each, I allowed the Eskimos to gnaw the pemmican and crack the frozen milk in their teeth to their hearts' content.

It had now been blowing so long that as we crawled into the igloo that night I hoped it would blow itself out before morning, for go we must, as there was no game here. Breakfast over, a cloud of snow whirled up into our faces as we kicked out the snow block forming the door, causing us to dive into our bags for windproofs to prevent the snow from driving into our sheepskin shirts. Laying a course by the wind, we headed out across the bay into the drift, hoping to strike well up the coast. It was only a few miles, but it seemed many before we found ourselves among a series of low hills, the sledges dragging on gravel. We headed north, following the interminable windings of the shore, which was so low and shelving that time and time again we kept our course only by following the tidal crack. It cleared up beautifully that night as we were finishing the igloo. Hvitberget seemed so near that we were quite disappointed in the day's work.

On April 11th we reached what we thought must be Cape Thomas Hubbard. Another furious wind-storm compelled us to take refuge in another dugout beneath a high, black cliff, and here we were determined to remain until it cleared up, so as to give us our bearings. In the morning we were startled by the crunching of snow at our entrance—the supporting party had come on schedule time. I was mighty glad to see Green and his two Eskimo boys. Their sledges contained everything that I needed to fill out twenty-five full days on the Polar Sea. If Crocker Land were only 120 miles distant from shore, as Peary thought, and as indicated on the latest maps, then we should go out in twelve days and back in seven, at the most. Two or three days on the new land, together with storms and

hold-ups, would probably use up the extra six days' food.

The thirty-three days' continuous work, during which they had covered 580 miles, an average of seventeen and a half miles a day, had told heavily upon the dogs. Strong head winds, heavy loads, and insufficient food gradually wore them out, ten dropping in harness. I was more convinced than ever that the salt in our pemmican was responsible for the vomiting, dysentery, and apparent weakness among all the dogs when feeding upon pemmican alone. That it could not be relied upon for a long trip on the Polar Sea, where it would be impossible to secure fresh meat, was very evident. Musk-oxen, caribou, and Arctic hares had saved the day thus far. My only plan now was to fill up the dogs on whatever meat we could get, musk-ox preferred, double feed them with pemmican on the hard marches, and do the 120 miles with a rush.

It had been blowing so long now that I began to doubt if good weather ever occurred at this Cape Horn of the North. As if to dispel this belief, on the morning of the 13th a golden ray of sunshine streamed in through our door; a more perfect day was never made—not a cloud, not a breath of air. The four Eskimos started off at once scouring the hills for game, while Green and I planned to reach the top of the high hills in the rear of our dugout in search of Peary's record and a possible view of Crocker Land far to the northwest.

As we rounded the first point we descried an Eskimo running toward the camp. An accidental discharge of a rifle and a wounded or dead Eskimo were my first thoughts. We quickened our pace; something had surely happened. Yes, indeed—barely a few minutes

from the dugout and he had killed four caribou! This was certainly luck. If the other Eskimos found them as plentiful, our dogs could go on for some time, although caribou meat is lamentably lacking in strength and stamina-producing properties.

Going up the valley and ascending the highest ridge, we scanned in vain the horizon for a cairn, and continued to do so for some eight hours, passing from crest to crest. We examined every inch of the horizon closely with powerful glasses, but failed to discover the slightest appearance of land. Tired and disappointed, we trudged back to camp, arriving late in the evening, finding all our hunters in and all reporting no success.

My plans were quickly made. I would send Arklio and Noo-ka-ping-wa back to Etah at once, limiting our party to four only—E-took-a-shoo, Pee-a-wah-to, Ensign Green, and myself—thus economizing on provisions and enabling us to remain in the field for a much longer period. The two boys, furnished with oil, tea, and biscuit, by proceeding slowly, could easily depend upon the country for meat.

Upon failing to find Peary's cairn and record, we reasoned that Cape Thomas Hubbard must be some distance yet along the shore; and so it proved to be, for as we swung out from land on to the Polar Sea we commanded a good view of the whole coast, easily recognizing the Point from a picture in Peary's *Nearest the Pole*. The giving out and dropping of one of Green's dogs on the first day caused me considerable anxiety. If they were dropping now, where would they be a week later? We lightened their loads at once to try to save them, hoping they would gradually gain strength

and eventually recover. Rest I could not give them so late in the year.

As we headed out toward the northwest over a hard, rolling surface of blue ice I felt that our work had really begun; the 500 miles behind were but the path leading up to our field of work. We were going into the unknown, toward that point where land had been put down with a question mark, where Doctor Harris said it might exist, where well-known geologists declared that it couldn't exist, and where Peary claimed that it did exist.

The end of the first march saw us encamped at the base of a small pressure ridge about fourteen miles from land. With E-took-a-shoo and Pee-a-wah-to I mounted the highest mass of ice to survey the field for the next day. Not a word was spoken for some minutes. There were several pressure ridges in sight and some rubble ice through which we could easily pick our way. The Eskimos were plainly thinking, and their thoughts were not pleasant ones. With eyes better than mine, they were not only seeing the same things which I saw, but were seeing something more—open water. When their tongues finally began to wag, I caught the familiar words: "Much water," "The sun is high," "Will not freeze," "The ice is moving." As soon as I realized that they were worried over this, I remarked that I was glad to see the ice so good and that it was much better than when we were with Peary on the last trip. I slapped E-took-a-shoo on the back, bantered Pee-a-wah-to a bit, and ended by telling them to feed two cans of pemmican to their dogs instead of one.

The dark lanes of open water visible ahead and those on the horizon, as indicated by a water sky, were evidently opened up by the full moon of April 10th.

Fortunately, there would not be another full moon until May 9th; by that time we should be on land. The two great opposing forces which guard the secrets of the Polar Sea are pressure ridges and open water, the former smashing sledges, wearing out the dogs, discouraging the men, and retarding progress; the latter decisive and convincing—thus far and no farther. Now that the high tides were over, with the thermometer at twenty below zero, these leads would soon freeze.

In the morning we were through and over the pressure ridges in a very short time, our route leading us out upon a long, beautiful stretch of smooth ice. We hopped on our sledges, snapped the whips, and away we went! When on the verge of believing that "Old Torngak," the evil spirit of the North, was, as Oo-tah said, "either having trouble with his wife or had forgotten us," a lead was thrown across our path about one hundred yards wide and extending apparently around the world. Ice was forming out from both banks, a thin line of black extending down through the center. Although a strong southeast wind was blowing, as yet there seemed to be no pressure. Clear, cold, calm weather is the daily prayer of a man on the Polar Sea. We were confident that we could cross in the morning.

An igloo was constructed and a sounding attempted. When 200 fathoms of wire had been unreeled, Green remarked that we had found a deep hole. When 500 had disappeared, I thought he was right. When 1,000 was reached, we simply looked at each other. A steady strain was kept upon the wire, yet not the slightest perceptible difference could be detected from start to finish. Nearly 2,000 fathoms were lowered into that

HELD UP BY PRESSURE ONLY

The closing of a lead one hundred and twenty miles from land.

hole before we gave it up. We were only seventeen miles from land, and there was only one conclusion—our weight, which was a five-pound pick, was so light that it was being carried off by the current probably flowing into Nansen Sound. To get that wire and pick back, with the thermometer at twenty below zero, was a long and tedious job. Attaching a handle to the reel, we relieved one another every fifteen minutes. At the end of five hours we expected to hear Pee-a-wah-to, who had the last relay, call out at any moment, "*Ti-mah!*" ("Finished!"). Instead of this, he stuck his crestfallen face in at the door with the announcement that the wire had broken and our pick was gone!

A series of soundings was so important that this loss was a serious one. What could we use for a weight? Mentally we ran through every article in the equipment. Only one pick was left; certainly it would never do to use that. Our pemmican hatchets were too small. An eight-pound can of pemmican would not sink. One bottle of mercury for the artificial horizon—we must have that for our observations. No, there was not a thing that would serve. To think that my dogs had pulled that reel containing 2,000 fathoms of wire and weighing about forty pounds, for nearly 500 miles, only to have it thrown away without a single sounding! I felt as if I were a pall-bearer at a funeral as I carried the reel to the top of the highest ridge and left it there.

The first man who awoke in the morning rushed for the peep-hole in the front of the igloo. Yes, the lead was frozen; we could cross. Hitching up the dogs, we ran along the lead to a section of the ice which we judged by its whitish appearance to be the strongest. E-took-a-shoo advanced cautiously and tapped it with his whip-

stock, saying, "*Nah-muck-to!*" ("All right!"). As I watched his little short legs running behind the komatik, I was astonished at the flexibility of salt-water ice. It yielded like a strip of rubber, one wave seeming to precede and another to follow him. I had visions of E-took-a-shoo camping alone if he had weakened it in any way by passing over it. As Green crossed I said to myself, "He will never get there"; but he did. Two of my dogs broke through; a shake of their furry coats, a wag of their tails, and they were ready to go on.

As a reward for crossing this lead, a perfect picture presented itself—a long, level stretch of compact snow. We easily covered twelve miles in four hours, when we were stopped by another lead. Sending Pee-a-wah-to west and E-took-a-shoo east to reconnoiter, Green and I impatiently awaited their return. Knowing that the former was a little discouraged and feeling that I could not trust him for an accurate report, I soon followed. About one mile west from the sledges the lead ended in two branches. Long before I reached this point I could hear the crunching of the ice. The opposite sides of the first branch were now in contact, offering a bridge scarcely wide enough for one sledge to cross; here the edges were slowly rising and crumpling with a peculiar humming sound. Jumping over this and hurrying across an old floe some fifty yards wide, I made a hasty examination of the second branch. Spanning this was a chaotic mass of rubble jammed so tightly together that it ought to bear our weight. There was no time to be lost; it might open any minute. Running back down the lead I yelled to the boys to come on. The first lead was easily taken by means of the narrow bridge, but the second presented the hardest ten min-

STRETCH OF ROUGH ICE ON POLAR SEA

Such work smashes sledges and wears out men and dogs.

LAST CAMP ON POLAR SEA

utes' work of the whole trip—"rough" and "rubble" do not half express the character of the surface.

As before, excellent going followed. With eighteen miles to our credit, we finished the day on the banks of another narrow lead which froze over during the night. At the end of the next day (April 19th) we were in high hopes of making our distance. Throughout the day it had been a succession of long, level stretches and newly frozen leads with clean-cut edges—no pressure ridges whatever. The haze on the horizon, which had been a constant attendant, was slowly disappearing; no water sky could be seen; all the leads were evidently frozen; without a doubt we were beyond the pressure area. By dead-reckoning we judged that we were about fifty-two miles off shore. As this was based upon an estimate of only three and one-half miles per hour, I was quite sure that our regular observations would add to the distance covered.

On the 20th we stretched out for a record, crossing nine newly frozen leads, and estimating at the end of the day that we had surely covered thirty miles. Two of Pee-a-wah-to's dogs dropped and were left on the trail, hoping that they might come into camp later. One was found lying with the team in the morning; he went on for a few days and then dropped for good. Pee-a-wah-to's dogs were plainly showing the effect of his constant riding on the sledge, for he was no longer leading and breaking the trail as he had done in the past. Like all other Eskimos, he did not believe in walking when he could ride. Green, with good judgment and excellent driving, still kept his dogs on their feet; although one was very weak; the others seemed to be getting stronger. He walked nearly every step; in

fact, I think he would rather have dropped himself than have his team give out. Our total distance at the end of this march was estimated to be seventy-eight miles. Looking back toward the southwest, nothing could be seen but a small, dark mass which we judged might be Cape Colgate, or some higher point in Grant Land.

April 21st was a beautiful day; all mist was gone and the clear blue of the sky extended down to the very horizon. Green was no sooner out of the igloo than he came running back, calling in through the door, "We have it!" Following Green, we ran to the top of the highest mound. There could be no doubt about it. Great heavens! what a land! Hills, valleys, snow-capped peaks extending through at least one hundred and twenty degrees of the horizon. I turned to Pee-a-wah-to anxiously and asked him toward which point we had better lay our course. After critically examining the supposed landfall for a few minutes, he astounded me by replying that he thought it was *poo-jok* (mist). E-took-a-shoo offered no encouragement, saying, "Perhaps it is." Green was still convinced that it must be land. At any rate, it was worth watching. As we proceeded the landscape gradually changed its appearance and varied in extent with the swinging around of the sun; finally at night it disappeared altogether. As we drank our hot tea and gnawed the pemmican, we did a good deal of thinking. Could Peary with all his experience have been mistaken? Was this mirage which had deceived us the very thing which had deceived him eight years before? If he did see Crocker Land, then it was considerably more than 120 miles away, for we were now at least 100 miles from shore, with nothing in sight.

Our prayer now was for clear, cold weather and good going. It was answered. On the morning of the 22d, the thermometer stood at thirty-one below zero; the air was clear as crystal. Green got a latitude of 81° 52′ and a longitude of 103° 32′, which agreed almost exactly with our dead-reckoning. To increase our latitude we set a more northerly course on the 23d and 24th, with a variation of 178° westerly. Observations on these two days put us ahead of our dead-reckoning in latitude 82° 30′, longitude 108° 22′, 150 miles due northwest from Cape Thomas Hubbard. We had not only reached the brown spot on the map, but we were thirty miles inland! You can imagine how earnestly we scanned every foot of that horizon—not a thing in sight, not even our almost constant traveling companion, the mirage. We were convinced that we were in pursuit of a will-o'-the-wisp, ever receding, ever changing, ever beckoning.

In June, 1906, Peary stood on the summit of Cape Colgate. His discovery of the new land is announced in *Nearest the Pole* as follows:

> North stretched the well-known ragged surface of the polar pack, and northwest it was with a thrill that my glasses revealed the faint white summits of a distant land which my Eskimos claimed to have seen as we came along from the last camp.

A few days later he stood on the summit of Cape Columbia. Quoting again:

> The clear day greatly favored my work in taking a round of angles, and with the glass I could make out apparently a little more distinctly the snow-clad summits of the distant land in the northwest, above the ice horizon. My heart leaped the intervening miles of ice as I looked longingly at this land, and in fancy I

trod its shores and climbed its summits, even though I knew that that pleasure could be only for another in another season.

He left his discovery for younger men to prove or disprove; this we had done. If Admiral Peary did see land due northwest from Cape Thomas Hubbard, then we had moved it at least 200 miles from shore. To see land at a distance of 200 miles from where Peary stood, the land must reach an altitude of more than 30,000 feet! Such an altitude in that latitude and longitude is contrary to all scientific reasoning. The highest peaks of Grant Land and Ellesmere Land do not exceed 6,000 feet, while Axel Heiberg, Amund Ringnes, and Ellef Ringnes Islands are even considerably lower.

Food for two days' farther advance remained on our sledges. Should we still go on? From our last camp onward the character of the ice seemed to have changed completely. The leads and small pressure ridges hitherto had trended east and west diagonally across our course. The fifth, sixth, seventh, and eighth marches were over a rolling plain of old ice covered with low mounds and compacted drift. From the summit of a pressure ridge the sea ice now presented a perfect chaos of pressure ridges crossing and crisscrossing in all directions. Such a condition must result from one of the following causes: proximity to land, strong currents, or passage over shoal ground. I am inclined to attribute it to the last. That we were not near land was evident. That there was no current is shown by the fact that a pemmican hatchet was lowered by a strong thread to a depth of 150 fathoms, remaining perfectly plumb throughout the whole process. Two days' work through such ice would net possibly eight or ten miles, breaking sledges, wearing out dogs, and reducing supplies to the limit. To

really test it, on the ninth day we went forward for about six miles. The ice was all that it appeared to be and worse.

It was late in the year; we had more than thirty leads behind us; a full moon was due on May 9th; we had more than covered our distance. To-morrow we would go back.

V

THE RETURN FROM THE POLAR SEA

MY dreams of the last four years were merely dreams; my hopes had ended in bitter disappointment.

If we were fortunate enough now to be favored with good weather, we could double-march back on our trail, sleep in the same igloos, and make the land in four marches. We turned anxious eyes toward the horizon before going in for the night. Blowing from the southwest and drifting was the report in the morning. Then our day would be a hard one. Could the Eskimos possibly pick up the trail? As we dashed out of camp and headed for home, now and then I caught a glimpse of the faint traces of the outward-bound sledge tracks. Arriving on the banks of the first lead, I inquired of E-took-a-shoo, who had been leading, if he had kept to the trail. To my astonishment, he replied that he had lost it a few minutes out from camp, at least three miles in the rear. In their characteristic, happy-go-lucky way, they had headed across country. Would they have done so had they been alone or had we been without a compass, for which they have great respect? I tried to conceal my irritation at this unfortunate occurrence at the very start of our retreat. The trail must be found

FOURTH CAMP ON POLAR SEA

and found at once, as every minute of drift was tending to conceal it. Pee-a-wah-to went to the east and E-took-a-shoo to the west, closely examining the banks of the lead; in thirty minutes they were back, failing to find any traces whatever. But it must be found; if lost now it was lost forever. Now Pee-a-wah-to went west and Green and I east on opposite banks; not the faintest indication of a trail anywhere. Again we met at the sledges and talked it over. Pee-a-wah-to thought it must be far to the east; E-took-a-shoo grinned and said he didn't know. Upon my telling them again that it must be found or we should go back to camp and pick it up there, Pee-a-wah-to started east again and E-took-a-shoo toward home. As the latter disappeared in the flying snow, I thought to myself: "That's the last we shall see of him for some time." Green and I kicked our toes and took refuge in a hole in the ice, trying to be cheerful.

In about an hour my dogs jumped to their feet, all attention, looking toward the south. Far off in the distance, above the sound of wind and drifting snow, came a faint yell. It was some minutes before we could detect the little, short body of E-took-a-shoo dimly outlined through the drift and waving both arms for us to come on. We recalled Pee-a-wah-to and were soon following our old trail, which reappeared at various intervals, but was none too easy to follow; indeed, that day's work by those Eskimos in keeping to the trail in a blinding snow-storm was nothing short of marvelous. With a feeling of relief we saw the black hole in the front of No. 7 igloo; we were content with a single march under such conditions.

We were up at 3.15 on the morning of the 26th to

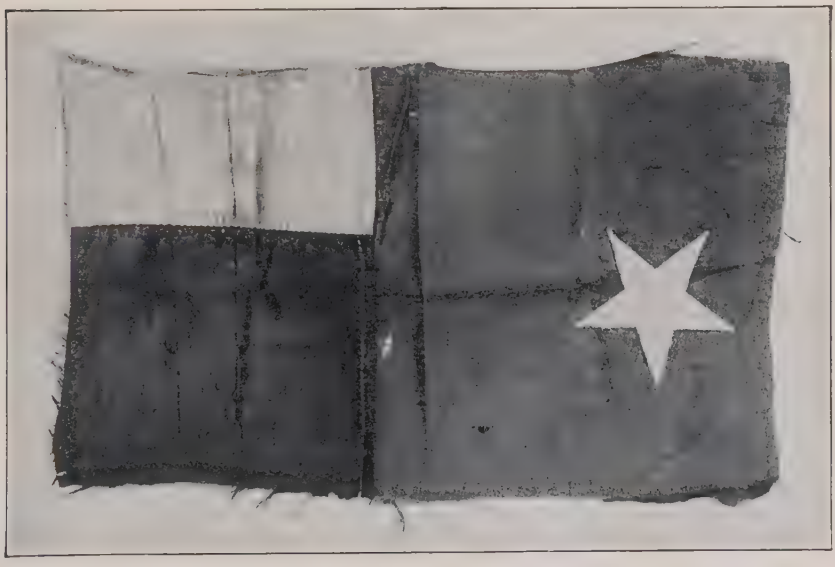
greet a glorious day for the long march from igloo No. 7 to No. 5. We stopped at No. 6 for hot tea, biscuit, and pemmican, not forgetting the dogs, each of whom received one pound of pemmican and two hours' rest. On the 27th we marched from igloo No. 5 to No. 4 in the same perfect weather and perfect going, all leads being frozen. Throughout the day the mirage of the sea ice, resembling in every particular an immense land, continued to mock us. It seemed so near and so easily attainable if we would only turn back.

Our dogs received two pounds of pemmican a day throughout the retreat, which is ordinarily a double ration. They were frightfully thin and needed every ounce of it. Thus far they were doing remarkably well, considering that they were all weak from dysentery, some staggering in the traces and not pulling a pound. Twice I slipped faithful old Sipsoo, who was slowly pulling his heart out, hoping that he would lie down and rest, and come on later into camp. As we started along without him, he lifted his head, gave me an appealing look, as if to say, "Don't you want me any longer?" In a few minutes he had trotted by and was at his old place in the team, pretending to pull. Now staggering, now falling, on he went, struggling to keep his place. He was born to pull. I harnessed him into the team, and there he remained to the end of the trip.

No. 1 and No. 2 igloo were practically together. We were held up by open water, therefore we decided to try for the nearest point of land from No. 3, which is Cape Thomas Hubbard. When we were within a mile of land we could see a cairn on the summit of a low, projecting point to the southward of us. As Peary was

PEARY RECORD FOUND WITH FLAG ON SUMMIT OF CAPE THOMAS HUBBARD

PEARY CAIRN ON SUMMIT OF CAPE THOMAS HUBBARD



PORTION OF AMERICAN FLAG LEFT BY PEARY AT CAPE THOMAS HUBBARD AND FOUND BY AUTHOR IN MAY, 1914

the only man who had ever been here, we knew it was his, described as being on the "low foreshore" beneath the cape. Although we had walked now for thirty miles, I felt that we must take advantage of the good weather by ascending the hill to secure Peary's record. No one knows what the morrow will bring in the Arctic. I shall remember that walk for some time to come. The Admiral wanted the man who secured that record to work for it, and we did, breaking through a heavy crust at every step until we reached the very top. There are three summits to the cape, situated at different heights. The first we passed, expecting the record to be on the second. To our disappointment, there was no sign of a cairn. Could it be possible that Peary climbed that next high hill after walking from Cape Sheridan, a distance of four hundred miles? We pulled ourselves together wearily and started down into the hollow which divided the two hills. We climbed ever-succeeding crests, but, finally, the last was mounted, revealing, outlined against the blue sky, a large well-built cairn enveloped in a blanket of snow. There was a short stick projecting from the top, and at the base was a cocoa-tin containing a piece of the American flag and the very brief record, "Peary, June 28, 1906." We replaced this with a small silk flag and a record, also a duplicate of the Peary record.

We now turned eagerly to an examination of the Polar Sea. Peary stood here in June, 1906, and from this very spot he saw what resembled land lying to the northwest, 120 miles distant. The day was exceptionally clear, not a cloud or trace of mist; if land could be seen, now was our time. Yes, there it was! It could even be seen without a glass, extending from southwest

true to north-northeast. Our powerful glasses, however, brought out more clearly the dark background in contrast with the white, the whole resembling hills, valleys, and snow-capped peaks to such a degree that, had we not been out on the frozen sea for 150 miles, we would have staked our lives upon its reality. Our judgment then, as now, is that this was a mirage or loom of the sea ice. That there is land west of Axel Heiberg Land—not northwest, as some scientists would have us believe—I have no doubt. I would limit the eastern edge of this land to 120° west longitude, and the northern edge to 82° north latitude, for the following reasons: Our eight days' travel out from Cape Thomas Hubbard was over ice which had not been subjected to great pressure, evidence that it was protected by some great body of land to the west against the tremendous fields of ice driven on by the Arctic current, which has its inception north of Bering Strait and Wrangel Land, across the Pole, and down the eastern shore of Greenland. At our farthest north, 82°, all was suddenly changed. The long, level fields ended in a sharp line going east and west; beyond this line there was the roughest kind of ice, which had evidently been pushed around the northern point of this unknown land over shoal ground extending toward the north.

We were so tired upon arriving at the igloo that we decided not to try for the second record on the point until morning. Three days' food now remained upon our sledges. I decided to send Green and Pee-a-wah-to to survey and explore the twenty-five miles of the unknown coast-line of Axel Heiberg Land, while E-took-a-shoo and I ran to Cape Colgate to secure the farthest-north record of Sverdrup.

The sky had an ominous appearance in the morning; the long-delayed storm was certainly coming. It was now blowing and drifting. A two or three days' delay here, consuming what little food we did have, would be fatal to our plans. We must move, and move at once. Telling Green to proceed down the coast two marches and back in one, E-took-a-shoo and I headed north for the dugout, calling back, "Good-by, Pee-a-wah-to." Above the sound of drifting snow I heard his faint reply in broken English and saw him turn toward the south.

In an hour we realized that there were more comfortable places in the world than the northern shore of Axel Heiberg Land in a blizzard. Unable to see for swirling snow, and at times fighting for breath, we groped our way along under the cliffs toward a shelter. Was it possible for E-took-a-shoo to find the old igloo this side of the dugout? Repeatedly the violence of the wind was such that our dogs could not move an inch. With faces protected from the icy blast by burying them in our sleeping-robes on top of the sledges, we slowly pushed our way from point to point. Long after I thought we had passed the igloo and were well on our way to the dugout, a yell from the native announced that he had stumbled upon it.

The roof had fallen and it was full of snow, but it was still a home, as any hole would have been under such conditions. By vigorous use of feet and hands it was soon cleared out, our grass bags were crammed into the door opening, the blue-flame was lit, and the storm was over as far as we were concerned.

By morning the roof had fallen so low that it was almost resting upon our bodies as we lay on the bed platform. Frequent visits to the peep-hole brought

forth the same reply from E-took-a-shoo—"Impossible!" Our food was nearly gone; our dogs had not been fed for two days; if there was the slightest chance of our making the dugout ten miles to the south, we would try it. For hours and hours we lay listening to that distant roar of wind and driving snow until I could stand it no longer.

"Let's try it," I suggested to E-took-a-shoo, who grinned and replied:

"Yes, let's try it."

As we lashed down the clothes- and komatik-bags to the sledge, the dogs, like white mounds in the drift, arose, shook off their snowy covering, blinked through eyes half filled with snow, as if to say, "Where do you think you are going now?"

Out of clefts, gullies, and valleys the wind dropped down upon us with the force of an avalanche. The flying snow eddied and whirled and wrapped us in a white mantle, until dogs and men seemed as white specters. Within five miles of our dugout the wind suddenly changed; now it was at our backs, blowing us along at a rattling pace around the point and down the straight shore. As we stopped to untangle traces a white wolf came bounding up to within twenty yards. My king dog was nearly frantic with excitement. With a leap he snapped the trace. I had read of these powerful wolves tearing Eskimo dogs to pieces, and for the moment I had fears for the safety of my best dog. They were groundless. The wolf was terrified and took to his heels. Within a few minutes the dog had overtaken him, took one smell, dropped his tail between his legs, and came trotting slowly back, wearing a most shamefaced expression. "To think that a dog of my

age should have mistaken a wolf for a bear!" was written all over him.

The wolf at this sudden turn of events gained courage and followed the dog back. E-took-a-shoo was so nervous that I was afraid he would blow up, repeating over and over again:

"And we have no rifle!"

We proceeded eastward. The wolf followed us closely almost to the very door of our dugout. E-took-a-shoo jumped from his sledge and ran for the black hole in the snow, his little short legs revolving like the spokes of a wheel. The wolf had now stopped and was lurking behind the rough ice of the ice-foot. In a few minutes he had disappeared entirely. Wise old owl!

I determined to wait here until the weather had cleared and the dogs had gained strength, which could only come by feeding them fresh meat. To pound them over to Cape Colgate in their present weakened condition simply to secure a record would be a crime. They had already covered 725 miles in fifty days—a good, honest work; they should rest for a few days at least.

E-took-a-shoo realized the necessity for meat, and, although it was still blowing hard, he started back among the hills at once. In ten hours he was back with two caribou.

May 2d and 3d were typical of the cape—strong winds and drifting snows. On the morning of the 4th I began to worry over the continued absence of Green and Pee-a-wah-to. Six days had elapsed and I had given them only three days' food. Where could they be and what could have happened? So constantly did I watch that point to the north throughout the day that

the picture is still in my mind—the broken ice, the sloping shore, the high bluff, the white hill. Late in the afternoon a black dot appeared on the horizon—something was coming. As the dot approached I could contain myself no longer; the sledge coming must be Pee-a-wah-to's. Where was Green?

I ran along the ice-foot to meet the sledge. Yes, they were Pee-a-wah-to's dogs. As the question, "Where's Green?" was about to burst from my lips, the driver, whose eyes were covered with large metal glasses, seemed to turn suddenly into a strange likeness of Green. He looked as if he had risen from the grave.

"This is all there is left of your southern division," he said.

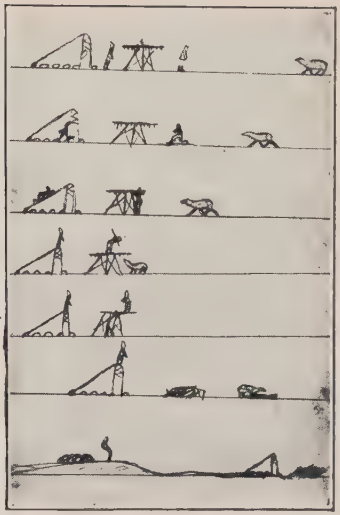
"What do you mean—Pee-a-wah-to dead? Your dogs and sledge gone?" I inquired.

"Yes, Pee-a-wah-to is dead; my dogs were buried alive; my sledge is under the snow forty miles away."

The story was quickly told. Green, inexperienced in the handling of Eskimos, and failing to understand their motives and temperament, had felt it necessary to shoot his companion. Pee-a-wah-to was a faithful assistant of Peary for more than two years, his last trip as one of the famous starvation party to the world's record of 87° 6′. He had been my traveling companion from the first, and one of the best. How I hated to tell the mother and the five children that the father was not to return!

Our dugout was a dreary hole. The northern end of Axel Heiberg Land, with its ever-rushing, whirling winds, seemed the dreariest of the dreary. Green consented to start, and off toward home we went. When we arrived at the "Took-too" igloo, some fifteen miles down the

Caribou and Musk-oxen



An Arctic Tragedy in Seven Acts

Caribou

Raven
Polar Bear
Blue Fox

Musk-oxen

Arctic Hare

Ptarmigan
Caribou

ESKIMO DRAWINGS OF DIFFERENT ANIMALS

coast, we were not surprised to find a sledge abandoned by Arklio and Noo-ka-ping-wa on their return. They had wisely decided to unite their few remaining weakened dogs into one team.

Ten miles south of this camp we saw four caribou grazing on the frozen moss of a sloping hillside, 300 yards from the shore. Green guarded our dogs, while E-took-a-shoo and I crept cautiously to within shooting-distance. We dropped upon our breasts and took long, careful, deadly aim. Shot followed shot. Six in all! The caribou regarded them as mere every-day incidents, hardly raising their heads! Beginning to distrust my eyes at the sight of four big bodies calmly feeding at what was apparently a distance of only forty yards away, I scrutinized the fat face of my Eskimo companion. He grinned sheepishly, pressed his cheek more firmly to the stock of his .44, squinted, and pulled again. This last shot was comforting in that it was acknowledged by a start, a shaking of heads, and a disappearance over the crest of the nearest hill.

"The last of them," I muttered, as I started back toward the sledges.

E-took-a-shoo stood wavering, first looking at me and then toward the hill. To my surprise, he tucked his rifle under his arm and began to ascend the hill.

"Good courage," I remarked to Green, "but he'll never get them."

He was back in fifteen minutes with them all! Persistency combined with patience—the secret of a good hunter—these qualities the Eskimo has in a marked degree.

We fed a whole caribou to each team. How they ripped into the red, tender flesh; how they crunched and

cleaned the bones, wagging their tails and plainly saying: "Thank God, we're on land again! No more pemmican for us!"

An hour later, as we helped ourselves to steaming hearts, tongues, livers, and tenderloin, we agreed with all they said. The change from pemmican was pleasant. Three of the brains were put aside to be frozen for breakfast.

Through the haze of the 6th, white-capped Hvitberget could be faintly distinguished at least thirty-five miles distant. We headed toward this straight over the sea ice, E-took-a-shoo leading all day long, and setting a good pace with the help of a large sail rigged to the back of his sledge. To our disappointment, the snow house here was demolished, compelling us to rebuild. It was one of the pleasures of our return to look forward to the ready-built house at the end of the trail.

Influenced by his success of the day before in converting his sledge into a ship, E-took-a-shoo bravely set his square sail to take advantage of a strong fair wind. Entering a long lane of glassy ice, the sledge fairly ran amuck, with E-took-a-shoo holding on to it like a leach and blowing like a porpoise. The sledge plowed through the dogs, scattered them to right and left, jibed over, whirled crazily, and then capsized. The dogs eyed it suspiciously and wondered if this rapidly moving animal could be good to eat!

Our igloo at Schei Island, with its glistening, blue-tinted walls, and the warm bed and floor deep with furs, recalled memories of the five happy days spent there. Here we recovered our caribou-skin sleeping-bags left at this point to economize on weight. For thirty-three

days we had slept without a bag, simply lying down at the end of the day in the clothes in which we walked.

We kept at the work for eleven hours on the 8th, reaching our old camp at Blaamanden following an exciting run of about a mile in pursuit of a large white wolf which managed to keep just out of gun-shot.

Our experience the next day, traveling south, is typical of northern work, and most interesting. We became separated in a drifting snow-storm shortly after leaving camp, and did not see one another until night. Quoting from my field-journal:

Saturday, May 9th. Sixtieth day.—A long fast run with a gale at our back. It has been so thick that we have not seen each other all day. Green dashed out of camp ahead, in hopes of shooting a bear. About a mile down the coast I passed one of his dogs, too weak to go on and left to die. He gave out yesterday and was dropped, but came in during the night. I reached for my rifle to shoot him as I passed, but did not have the heart to kill him after such faithful work.

When I had run my distance, according to my watch, fearing lest I might miss the igloo, I stopped the dogs and climbed the hill to look for E-took-a-shoo and Green. Through a rift now and then could be seen, far off on the ice, a black object resembling a sledge, side to the wind, with dogs partly buried, huddled under the lee. Up the coast was another crawling dot which I knew must be E-took-a-shoo; down the coast a short distance I made out an old familiar pressure ridge and what resembled an igloo. Upon E-took-a-shoo's rejoining me, he looked long and earnestly through my glasses at the suspicious-looking object out in the center of the fiord, but could not detect the faintest resemblance to a man, sledge, and dogs.

We proceeded south to the snow house, made our tea, and prepared for bed. Worried over the prolonged absence of Green, I mounted the igloo. The suspicious-looking object was at last in motion. Green had finished his nap and was now searching for our trail, which was readily found and followed.

A very laughable incident occurred to-night. One of my fur boots was caught by the wind and was being carried rapidly along over

the smooth ice of the Sound. E-took-a-shoo ran after it as rapidly as his short legs would permit. My dogs awoke with a start after he had passed, and saw the queer, fuzzy-looking article bounding and leaping, with E-took-a-shoo in pursuit. They jumped, tore the eight-pound tin of pemmican, which served as an anchor, out of the snow, and were soon at full speed on the heels of the Eskimo. Five of the leaping dogs passed upon one side, three upon the other, with the most undignified result. When the knotted traces and the bounding tin caught E-took-a-shoo back of the heels, he didn't have so far to fall as some, but that far was far enough. I noticed that he arranged a very soft seat on his sledge the next morning.

We arrived at the head of Bay Fiord on the 12th, after a continuous twelve-and-three-quarter-hour march on snow-shoes through heavy snow. Poor Green had no shoes, having lost them at Cape Thomas Hubbard, and arrived an hour later completely exhausted.

Added to my troubles was the enforced fostering of a pup born that morning on the march and carried on the inside of my shirt against my body to keep it warm. If that pup had lived it would have traveled in circles for the rest of its life! It crawled around my body forty times, and finally wriggled out through a hole in the back of my shirt. And after all this care, the mother refused to accept it at night!

A nine-hour plodding through deep snows on the 14th, up over the hills of Ellesmere Land, brought us to what resembled the bed of an old lake, a confluence of glacial streams resulting in a large area of rolling ice. Looking back through and over the black serrated peaks rising out of snow-covered valleys and winding glaciers well repaid us for our exhausting work. However difficult an ascent may have been and however physically tired the body, no one has ever yet regretted the expenditure of time and energy necessary in lifting one-

self above the clouds and so placing the world at one's feet.

On the 15th we ascended to the summit of the glacier, a height of 4,700 feet, keeping at the work for eleven and a half hours and camping well down on the eastern side, following an exciting run during which Green overturned and smashed his sledge. A white wolf followed us throughout the day, and at night sat on his haunches at a respectable distance, interested in our making camp.

In consideration of the fact that we were approaching a large cache of pemmican, I decided to repay the dogs for their arduous work of the last few days, and incidentally surprise them, by giving to each two and a quarter pounds of pemmican—more than a double ration! An exclamation from E-took-a-shoo, followed by "*Tokowok!*" ("He is dead!"), caused me to look toward a dog on Green's team lying on his side with his tail wagging. For a moment I concluded this to be but a manifestation of extreme and satisfying pleasure at having partaken of such a bountiful repast. A glance, however, at the size of his throat revealed the startling fact that he was so sure that some one else would want that big piece of pemmican that for safe keeping he had bolted the whole thing!

Tracheotomy! Green had always wanted to do it. Here was his chance! The trachea was slit. The chest was squeezed and contracted, then released and expanded. The forelegs were stretched high over the dog's head, and then pushed forcibly into his belly! The dog died, undoubtedly discouraged.

Thirteen hours' sledging on the 16th, ending with some careful and somewhat dangerous work on the

very front of the glacier, completed the day. The sweeping winds and warm spring suns had removed the snows and almost polished the hard, flinty surface. Fearing lest our sledges, once fairly started and beyond control, might plunge down the glacier and leap off into space, landing below, a complete wreck, we slipped all the dogs, overturned the sledges to increase friction, and placed a heavy drag far in the rear. We coaxed them carefully along inch by inch, and just as carefully lowered them to the sea ice below.

Hayes Sound presented very heavy going, compelling us to resort to snow-shoes throughout the day. To our surprise, upon reaching the site of our old cache on the ice at the entrance of the Sound, there was hardly a vestige of supplies left! One hundred miles from home and no promise of dog food! I had ordered it to be moved to the mainland, and the order had evidently been obeyed; but where was the note which should have been left informing us as to the location of the new cache? A thorough search failed to reveal what we were looking for.

As we stood together outside of our igloo, puzzled to know what course to pursue, E-took-a-shoo discovered three sticks in alignment projecting above the surface of the snow and pointing toward the land. He hitched up his dogs, drove away, and in a few hours was back with all our personal effects and a load of pemmican.

As we crossed Alexandra Fiord we caught our first sight of the Greenland coast through and over the heavy bank of mist marking open water in Smith Sound. Just how far north we would be compelled to go in order to cross none of us knew; E-took-a-shoo, judging by the

warm weather of Eureka Sound, feared that it might be for some distance.

The 19th gave us our last drubbing. Nothing else would have ever tempted us to round Cape Rutherford that day but a can of jam which Ekblaw had promised to leave under the Svendson cross at Sverdrup's old winter quarters in Rice Strait. How we fought against that wind and smothering drift, fairly choking for breath! The dogs quit and huddled in a ball, and we took shelter in the lee of our sledges and yelled that ever-repeated "Huk! Huk!" which now, after four years, we should be yelling in our sleep. After quartering the shore in vain and peering underneath every suspicious-looking pile of rocks, we ascended the hill and removed the stones from beneath the cross, yearning for something sweet. How a man craves it! Green declared he knew he could drink a gallon of molasses! We finally sat down to the same old menu—tea, biscuit, and pemmican, and were thankful for that.

The cross near which we pitched our tent had been erected by Sverdrup and his men in memory of the ship's doctor, by the name of Svendson, who was found dead in his tent at Fort Juliana some thirty miles west of the *Fram*. His body was brought to the ship and given a seaman's burial by lowering it through a hole in the ice of Rice Strait.

From this point a rapid run brought us to Peary's old hut at Payer Harbor, which I entered at once, expecting to find two cans of beans buried in the northwestern corner, as per agreement. My eyes nearly popped out upon beholding a box of canned peaches, pears, and marmalade! The beans may be there yet! Doctor Hunt had visited the hut, leaving for the west-

ern party, as I had requested, a few delicacies and a note containing the news of the past two months. With hands and faces smeared with good things and with eyes and noses buried in the can, we failed to detect the approach of two galloping dog-teams. E-took-a-shoo must have had his nose as well as his mouth filled with marmalade, or he would certainly have smelled that fresh seal meat with which the dogs and men were reeking. It was the first real foretaste of the summer.

Although late in the year and the ice breaking up, Ak-pood-a-shah-o and Oo-bloo-ya had crossed the Sound and were to continue over the heights of Ellesmere Land to our relief, without a thought of their families and the possibility of being cut off from home, thinking possibly that we had lost our dogs and were slowly plodding homeward. As a reward for such faithfulness I concluded that nothing was too good for these two men; and that so long as we were in the North they could depend upon us for all needed supplies.

Everything was transferred to their sledges. Our dogs, but shadows of their former selves, wagged their tails upon being relieved of their loads by their fat brothers just from home. In six hours we were on the Greenland shore, headed south through a light, soft snow. Near Cape Hatherton, Noo-ka-ping-wa, a dog of excellent spirit, staggered from side to side and then dropped. He had covered his 1,400 miles with head and tail up and was always pulling when the others quit. Now, nearing the house, he seemed to say, "Well, I think you can make it without my help," and gave up. Slipping his harness, I stroked his head and left him, knowing that he would follow on when he had renewed

his strength. He was curled up with the team in the morning.

Before we reached the house we met Jot leaving for the North on a seal-hunting trip with old Panikpa. We learned all the news: He had killed a large wolf near our front door, interesting news, considering that a white wolf had not been seen in Greenland for a half-century. Kood-la-tin-a's little girl had been strangled, having playfully hooked her sealskin hood over the upstander of a sledge. The only child and the only possible one, I knew the mother's heart must be broken. Poo-ad-loo-na and Jacob-shoo-na had been carried away on an ice pan. Jot had built an ice-boat, so novel and so fast that reports of this wonderful production of a white man have become exaggerated with the distance and with the years. As old Ak-kom-mo-ding-wa exclaimed:

"It goes like the very devil and doesn't have to be fed!"

VI

WORK AT BORUP LODGE

WHEN Ekblaw left me in Bay Fiord on March 23d and returned to Etah with his frosted feet, I gave him instructions for work following his recovery. He was absolutely free to come and go whenever he pleased, and to help himself to any or all of the equipment and supplies. He was to plan for whatever work he deemed most valuable for the interests of himself and the expedition. He had concluded that a delineation of the unknown coast-line of Princess Marie Bay offered the greatest inducement for the expenditure of his time and efforts; and in this I had agreed with him.

To my surprise, I now learned that he and Tanquary had been persuaded by Freuchen, the Danish trader, that his home at North Star Bay was an Arctic paradise, whereupon they had gone south for geological and zoological work, with the intention of returning during the summer in Freuchen's power-boat.

With the breaking up of the sea ice and the melting of the land snows, our sledging-days were over for about four months. During this warm period we planned work in ornithology, geology, botany, zoology, map-work, and photography. And at the same time we

kept in mind the needed daily supply of fresh meat and its methodical accumulation for the following winter.

One of the great surprises of the Northland is its enormous bird life, always heralded by two wheeling white dots high in the heavens outlined against the deep blue of the sky.

It is a warm day in the Eskimo village. The sun is high. Summer has come. Traces of water are seen on the surface of black rocks. Dogs are stretched out at full length. The quietness and peace of the big fiord is broken only by the voices of children hunting imaginary seals among the rough shore ice. Suddenly ringing out loud and clear comes the glad cry: "*Ta-koo! Nau-yuck-suit!*" ("Look! The glaucous gulls!"). Nomads of the sea, they have come from their southern winter homes, two and even three thousand miles distant, unerringly back to their birthplace in the Arctic.

The big burgomaster, or glaucous gull (*Larus hyperboreus*) seems to be an integral part of the Northland. Bold, strong, and vigorous, he sweeps along the face of the vertical black cliffs on outstretched wings, fully confident of his power to secure subsistence and to battle against wind and snow. The first to come and the last to go, we welcome and we miss them.

Another white bird on the cliff catches the eye. The rapid beat of the wings identifies it at once as the courser of the North—the gyrfalcon (*Falco islandus*). This bird stands as the dominant king of Northern bird-land, fearless, aggressive, and the swiftest of all. In lonely and inaccessible places it builds its nest, scorning the friendship of bird or man. Although the gyrfalcon lived within two miles of our house, we rarely saw it. A rapid white dash and the bird was gone. Its tremendous

activity, however, and its voracious appetite were strikingly apparent in the enormous pile of wing and leg bones of the dovekie in the immediate vicinity of the nest. The remains of black guillemots, ptarmigan, and even eider ducks all testify to the strength, the swiftness, and the aggressiveness of this energetic bird.

Vivacity is the chief characteristic of the sea-pigeon or Mandt's guillemot (*Cepphus mandti*). Dabbling, diving, and perking their heads, skittering from the water with pattering red feet, these sprightly birds are found in every pool and all along the edge of the ice. With a rush they are off with rocking bodies; but they soon return with a graceful sweep, outstretched feet, and happy-go-lucky splash. A lover of the North and unmindful of violent winds, stormy seas, driving snows, and freezing slush, the sea-pigeon remains, strange to relate, in the open waters of Smith Sound throughout the dark winter night. This bird has been seen every month in the year. We saw it late in the fall in the semi-darkness and early in the spring in the increasing twilight. Many and many a time it seemed to be the only animate thing outside of our dogs and ourselves in that frozen world. We blessed it for its presence.

The northern eider duck (*Somateria mollissima borealis*) is of the highest value to the northern Eskimo. Weighing three and a half pounds each and a single egg three and a half ounces, their food value is considerable. Incredible numbers of these birds arrive at Etah about May 13th. The waters, the edge of the ice, and the numerous islands about Etah are fairly dotted with their bodies. The soft and melodious mating cry of "Ah-óo. . . . Ah-óo. . . . Coo-cóo. . . . Coo-cóo," is heard day and night. There is a continuous flight of birds around and

BURGOMASTER OR GLAUCOUS GULL (LARUS HYPERBOREUS)

about Sunrise Point, Littleton and Eider Duck Islands, and McGary's Rock.

How impatiently we awaited the discovery of those first golden nuggets in the nests! Can we ever forget those annual pilgrimages to the shrine at historic Littleton and Eider Duck Islands and McGary's Rock! Here, among a laughing, jolly company of men, women, and children, we pitched our tents among the nests; we boiled eggs, and we fried eggs, and we scrambled eggs, and we shirred eggs, and we did everything to eggs! In a few hours 4,000 delicious fresh eggs were gathered from one small island alone. Cached beneath the rocks, away from the direct rays of the sun, they remain perfectly fresh; they become chilled in August; and freeze hard as so many rocks in September—a much-appreciated delicacy during the long winter months. The shells are often broken and the contents poured or squirted from the mouth of the Eskimo into the intestinal sheath of the bearded seal or the walrus, a most nutritious sausage to be eaten on the long sledge trips.

The breeding-place of the brant (*Branta bernicla glaucogastra*) has often been the subject of inquiry when conversing with sportsmen. We found it in considerable numbers on Sutherland Island near Cape Alexander, and upon both Littleton and Eider Duck Islands, five miles north of Etah. The nest, containing from four to six white eggs, resembles in every particular that of the eider. The down with which the nest is lined may be a little lighter in color.

But what is that great, pulsating, musical note which seems at times to fill all space? Now loud and clear, now diminishing to a low distant hum! The sound proclaims the arrival of a true representative of the bird

life of the Arctic, the most interesting and the most valuable of all, the bird which means so much to the Smith Sound native—the dovekie or little auk (*Alle alle*).

The long, dark winter has at last passed away. The larder, open to all, is empty. The sun is mounting higher into the heavens day by day. Now and then a seal is seen sunning himself at his hole. The Eskimos are living from hand to mouth. And then, that glad cry, relieving all anxiety for the future, bringing joy to every heart: "*Ark-pood-e-ark-suit! Ark-pood-e-ark-suit!*" ("Little auks! Little auks!").

As a boy I had found this little wanderer, weak and emaciated, on the coldest and shortest days of winter washed up by the billows on the back shores of Cape Cod. Pine knots, the fishermen called them, and to my question, "Where do they come from?" they could give no reply. Little did I think then that their home was in the shadow of the Pole, and that on the first day of August, thirty years later, high up on the summit of Bushnan Island in a driving snow-storm, I should be making wild sweeps with an Eskimo dip-net in my endeavor to ensnare a few for supper!

As the numberless black-and-white bodies wheel out from the talus-covered cliffs into the fiord, they resemble nothing so much as a gigantic swarm of bees, now black, now a glittering white, as their breasts reflect the rays of the sun.

Laughing women and children, in anticipation of the feast, hastily gather up their nets and sealskin bags. Pups, pets, and cripples are harnessed to father's old sledge, and the caravan is off for the day. Once at the rookery, the mother takes her position in one of the various holes in the talus used by her ancestors through

the centuries, and is soon busily engaged in sweeping the air, swinging the long twelve-foot pole, terminating in a dip-net some fifteen inches in diameter, for hours and hours, often netting with one sweep ten and twelve birds. In the mean time, the children, early trained in accuracy of stone-throwing, are continually adding their quota, or can be seen, feet and legs up, fairly standing on their heads in their endeavor to reach the single white egg deposited deep in the rocks.

Many of these birds are eaten raw on the spot, each Eskimo consuming ten and twelve; and many are boiled in soapstone and iron kettles; while thousands are cached, uncleaned, to season for the midwinter feasts. The skins are sucked to remove the fat, softened by rubbing, and then cut and sewed together into warm birdskin shirts once so common, but now replaced by the white man's shirt of the trade-list.

May, June, July, and August are the harvest days, for "the time cometh when no man can work." Active, energetic, full of life and the love of life, the Smith Sound native is out of bed, kayak launched, and away, his piercing, dark-brown eyes, set in a frame of straight, jet-black hair, noting every ripple or movement upon the water; he is in search of the walrus. It is a wonderful sight to see the flash and dip of that paddle, the speed of that black, clean-cut body, the graceful curve of the flying harpoon, the mighty splash of a large herd of monster walrus!

It is not sport to shoot musk-oxen rounded up by your dogs and huddling and trembling with fear. Nor is it sport to pump a bullet into the silvery-white body of a polar bear held at bay by fifty and sixty dogs. Necessity for meat is one's only excuse for such slaughter.

But get into a twenty-inch skin boat, only nine inches in depth, and dash at a bull walrus weighing a ton. With no help from dogs or man, put your skill, your strength, your nerve against those long ivory tusks and the remarkable quickness of that ponderous body. An accurate knowledge of the temperament and the characteristics of a wild animal has saved many a hunter. Uncertainty as to action, however, is written all over a walrus, as shown by the large number of casualties incurred in the chase.

In Spitzbergen, some years ago, a herd assumed the offensive, upon being attacked, capsized the boat, and killed every man. In 1908 a bull walrus attacked Sipsoo, an Etah native, capsized his kayak, cut his throat, and left him for dead. In 1910, Arklio, one of the best and most skilful hunters in the tribe, was attacked and nearly lost his life. The walrus whipped around when harpooned, rushed at Arklio, and drove his tusk completely through his arm. In 1908 some fifty walrus attacked our whale-boat, undeterred by the frightful yells of the thoroughly terrified natives, who were beating the rails and water with oars, and the crash of a stream of bullets from my Winchester automatic and Borup's powerful Mauser. Two of the animals succeeded in hooking their tusks over the rail. The following year in a similar attack one broke through the bottom of the boat. No, the fighting qualities of a walrus are truly to be respected, and dealt with accordingly. Each year our natives secured between fifty and one hundred of these great brutes, the very best of rich red meat for themselves and dogs, a guarantee of strength for the long white trail leading to unexplored lands, the main object of our expedition. All

NETTING DOVEKIES AT THE RATE OF ONE A MINUTE

work during the summer must be subordinate to the all-important task of meat getting.

We depended for our coats, boots, and mittens upon seals secured upon the ice in May by creeping behind a white sail fastened to a small sledge; during the summer they are shot with the rifle from the kayak.

We kept careful watch day and night over our house and equipment, and our meteorological observations went on without interruption. Both Doctor Hunt and Small were keen hunters. The former supplied our table with seal meat, and the latter with eider duck, black guillemot, and murre, many of which were prepared as specimen skins for the American Museum. On the 20th of June Hunt surprised and pleased us all by appearing at midnight with the hindquarters of a caribou around his neck. He had beaten the Eskimos at their own game; no one had secured a caribou at Etah for years.

Jerome Allen deserves the very highest praise for his indefatigable efforts to establish communications with home through his wireless apparatus. He was by far the hardest worker of the expedition from the time that he landed upon the beach until I bade him good-by two years later. Handicapped by a constitution which failed him repeatedly, he was ever enthusiastic, and did not give up hope until every expedient had been tested which he could devise with the material available. Within twenty-one days after our floor timbers were in place he had assembled his engine, wired the switchboard, storage batteries, and house, and had snapped the button—presto! the house was flooded with electric lights! Under his direction, with the help of the boys, wires were strung from the top of the hill in the rear of

the house, across the river valley to the heights east. Yet after all this effort not a rewarding buzz was heard! A rattle, bang, snap, and crash, the voices of the terrific winds sweeping down from the Greenland ice-cap out to sea, were the only answer to his appeal.

Confident that results could be obtained by using kite wire as an aerial, Allen expended many weeks of hard labor in building and flying huge box-kites; but the experiment failed, because of winds uncertain both in force and in direction. Confident again that if a sub-station could be established on one of the outer islands, remote from the counter influence of the big hills backing Borup Lodge, results would certainly be obtained, he requested a trial. With the help of our motor-boat, whale-boat, and the Eskimos, all the electrical and wireless equipment was transferred to Starr Island, some two miles southwest from the lodge. Here, with the help of Ensign Green, a small house was built and the equipment installed, with the same negative results.

The boys, both ambitious for study, found this little home, warm and well stocked with food, so cozy and comfortable that they preferred its comparative quietness to the company of the white men and the fun-loving Eskimos. This happy decision was a distinct advantage to the expedition in that it served as an objective for our daily walk, and also as a meteorological sub-station, where conditions were at times so different as to be almost uncanny. As an illustration: Starting from our house one day with the thermometer at −24 F., there was a sharp division line about half-way to the island, where the temperature dropped to −40. This remarkable change was very evident upon two other occasions. Undoubtedly our temperatures at Borup Lodge, right

at the base of the big hills over which the wind flowed from the heights of the 10,000-foot ice-cap of Greenland, were influenced considerably by adiabatic heating.

On June 27th all our Eskimos arrived from the region of the Humboldt Glacier, bringing with them four polar bears. As his contribution, Ak-pood-a-shah-o presented me with a long-tailed jaeger which he had caught in his hand by reaching up over the edge of the ice-foot as it was feeding! Considering how alert the bird is, this was indeed a remarkable feat. Oo-bloo-ya brought the egg of an ivory gull; although broken, it was highly prized as being the only one in our collection.

But the best gift of all was brought back by Ah-now-ka—a yellow, faded record of the Elisha Kent Kane Expedition of sixty-one years before, bearing the date of August 24, 1853. Referring to his book, we find that on this day the little brig *Advance* was being tracked along the ice-foot on her way north. On August 23d Doctor Kane sent out "Messrs. Wilson, Petersen, and Bonsall to inspect a harbor which seems to lie between a small island and a valley that forms the inner slope of our bay." The name of Bonsall could be deciphered, which would indicate that the record was placed there by this party.

A few days later, Ak-pood-a-shah-o, not to be outdone by his nephew, Ah-now-ka, placed in my hands two very valuable records of Doctor Kane, an old caplining and a sheet of heavy paper on which was cut with the point of a knife: "All well. Kane. Aug. 29, '53. Gone south. 78° 40′." Across the bottom of the paper can be deciphered with difficulty a large "Kane," which might have been made with a pointed stick or the point of a bullet.

The following is the entry for that date in his book:

In the morning of the 29th, Mr. Brooks, McGary, and myself walked fourteen miles along the marginal ice; it was heavy and complicated with drift, but there was nothing about it to make me change my purpose.

His purpose was to return to the ship and organize a boat party to advance north, which explains the "Gone south" in the record.

Page 58 also aids us in an understanding of the record:

I erected a small beacon cairn on the point; and as I had neither paper, pencil, nor pennant, I burned a "K" with powder on the rock, and scratching "O.K." with a pointed bullet on my caplining, hoisted it as the representative of a flag.

He hoisted this makeshift flag on August 29th, one mile above Fog Inlet, which he subsequently renamed Refuge Harbor. The "O.K." can still be seen. To think that we held in our hands a record and the caplining of the first American Arctic explorer! Actual relics of the author of a book which has caused many a lad to neglect his studies and dream and dream of sledges, dogs, snow-shoes, and the North trail! I felt that we were almost shaking hands with the immortal Kane.

June 29th was an important day in the life of one little chap, for on that day he announced his arrival in unmistakable tones. And he had come without the professional skill of learned doctors, the smell of ether or chloroform, or the tender care of a high-priced nurse. The mother, a healthy animal, attended to the child and was up and about in a few hours.

THE NIAGARA OF NORTH GREENLAND

The sound of falling water is heard up and down the coast during the warm months of June, July, and August.

Eskimo children are born under most amazing conditions and in remote and strange places—on islands when hunting ducks' eggs, far back on the hills in pursuit of caribou, and even on the trail, with father seated on his dog-sledge, patiently waiting and watching the little maternity hospital quickly fashioned for the occasion out of blocks of snow.

Thoughts of our country far away to the south would not permit us to pass Independence Day unnoticed. Miserable weather, however, prevented us from carrying out the program of races we had planned, and compelled us to resort to a simple flag-raising in recognition of the day.

Our meat menu was pleasurably varied at this time by the substitution of seventeen magnificent salmon trout (*Salvelinus stagnalis*) caught in Alida Lake by Arklio, E-took-a-shoo, and Jot. The largest measured twenty-eight inches and weighed four and three-quarter pounds.

By the middle of July the grass was long and green and the ground was fairly dotted with flowers. Within one minute's walk from our door I counted eighteen different varieties. With the thermometer at sixty above and the warm rays of the ever-circling sun, a wonderful transformation takes place in the character of that far-northern country. The snow disappears as if by magic. The sound of falling and flowing water is heard throughout the length and breadth of the land. The sea ice is pitted and covered with pools of water, and is continually breaking into large sheets and disappearing over the southern horizon. The air vibrates with the whirring of the wings of countless birds, the sea teems with life, and the ground is covered with beds of beautiful flowers. One realizes that the "White North"

is not all snow and ice; as elsewhere, the sun means life, full and abundant.

On August 5th our harbor was free of ice, enabling us to launch our thirty-foot power-boat. I had worried considerably for several weeks over Ekblaw and Tanquary, believing that all was not quite so rosy at Umanak as pictured by the Danish trader. True, they had planned and outfitted their own trip with all the equipment and supplies of the expedition at their command, yet I felt that a relief party might be welcome.

On the 9th we were off through large fields of ice with our 12-H.P. Wolverine engine working like a clock, bound south for North Star Bay, 120 miles distant. In six hours we were at the village of Nerky, where we found six tupiks inhabited by twenty-two people, all of whom, ill-clothed, dirty, and greasy, were in marked contrast to our hair-combed, face-washed, cloth-clad, cigar-smoking Eskimos. The change brought about by a year's contact with white men was hardly credible.

At Ig-loo-da-houny, poor E-lay-ting-wa sat in her home with bowed head and tear-filled eyes, mourning over the death of her only little one, just as dear to the heart of the savage as it would be to the civilized mother.

Skirting the shore below Cape Parry to avoid heavy sea ice stretching to the southern horizon, we passed but a few yards from the hut at Booth Inlet erected by the retreat party from the *Advance*, locked in the ice of Rensselaer Harbor. These men, wearied by the monotony of the Arctic, and lacking the moral strength, when hardships came, to stand by their leader, preferred the risks of a southward journey in two small boats rather than remain for another winter.

And what hardships they experienced! And at last,

confronted squarely by the consequences of their poor judgment and unreasonableness, they drove back to the ship to be fed and administered to by Kane and those who had remained loyal.

We found North Star Bay packed with ice, offering but little evidence of a lead to Umanak, where our two men were supposed to be living. Working to the westward and zigzagging to the right and left, the boat crept ever nearer, arriving at our destination on the afternoon of the 11th. Tanquary was soon on board, and the story was quickly told and verified by his very apparent loss of weight. Lack of food, coupled with their anxiety over the uncertainty of their return home, had left their marks. Thoughts of Etah with its well-stocked larder had been with them constantly. They saved even prune stones, cracking them and eating the contents! A real full meal was only a dream and a distant hope. Within a few minutes Ekblaw came fairly tumbling from a botanical trip among the hills, with his usually happy face looking considerably more so. Seated on top of our cabin, how they did enjoy those buckwheat cakes! And then, filled to repletion and with faces sticky with syrup, they both asked:

"When are we going home?"

"Right now; just as soon as we can get out," was the satisfactory reply. Plowing northward through rain, wind, and ice, in twenty hours we were back at Etah, stopping a few minutes at Cape Henson for water.

On the 21st, in an attempt to cross Smith Sound through running ice, we nearly lost our power-boat. Upon approaching Littleton Island, headed west, we were tempted by a narrow lead to gain a large expanse

of blue water which was a half-mile distant. It was a race between our engine and the hard, bluish-white, relentless jaws of a slowly closing trap. The trap won. The boat was lifted almost completely out of water and rolled over on her side on the pan. The lift saved her. When the pressure relaxed somewhat, we chopped the ice away with axes and gently lowered her back again into the water. When the engine was started, she ran around in circles, like a crippled duck, until the cause was discovered—a badly twisted rudder, which, when properly adjusted, steered us straight back to Etah. We had had enough for one day.

On the 23d, Jot and Ekblaw received instructions to proceed south with our Eskimos in the power-boat to Sulwuddy, where they were to hunt walrus and seal and bring all the meat in cache to Etah.

A heavy snow-storm on August 25th was followed by a strange quietness which reigned throughout the fiord. Our cheerful neighbors, the little auks, had gone south—conclusive proof of the drawing to an end of our long, delightful summer.

The 30th was a red-letter day. A number of them, in fact! I received sixty-two! Our power-boat chug-chugged into the harbor loaded with dogs, boxes, and mail. Just below Cape Alexander the boys had met Peter Freuchen, Danish trader at North Star Bay, bound for Etah with Ekblaw's dogs, which he had left at Umanak, and with mail from home *via* Copenhagen, Denmark, by means of Rasmussen's ship, which had lately arrived at the trading-station, 120 miles to the south. A heavy wind and rough sea compelled Freuchen to give up the attempt and to transfer everything to our boat.

Naturally, our letters and newspapers, the first for a year, were very interesting, informing us of our trouble with Mexico, the loss of Stefansson's ship, the *Karluk*, the discovery of Nicholas II Land, the plans of Sir Ernest Shackleton for crossing Antarctica, the political situation at home, and the discovery of a river by Colonel Roosevelt in South America. The conflicting exclamations and news announcements coming from the four bedrooms were a bit laughable:

"Harvard beat Yale fifteen to five!"

"Cook says we are here to steal his records!"

"My brother broke both legs above the ankle!"

"Oh, my! but that is a great baby!"

"My wife wants me to come home!"

It is interesting to note that a few days following the receipt of this mail nearly every man contracted a severe cold! Undoubtedly the germs of civilization, would-be Arctic explorers, had survived the six thousand miles of sea travel with our letters and were now at "*Farthest North.*" Letters to outposts should be disinfected.

We read our letters over and over again, and then again buckled down to work, every pleasant day finding us out in our power-boat, quartering the sea in search of walrus, running north as far as Cape Hatherton and south to Cape Chalon. Slush in the water on the 23d warned us of a probable freezing over of the harbor, and our power-boat was hauled up for the winter.

The annual pilgrimage to the caribou-grounds some fifty miles north took place as usual, the Eskimos and Doctor Hunt leaving on September 10th, and returning on the 23d with forty-two warm skins, invaluable for bed-robes, coats, and sleeping-bags for the extreme temperatures to come. Such good luck inspired Tanquary

and Jot to start north the next day with Oo-bloo-ya and Arklio.

In the mean time our younger Eskimo boys were continually bringing in from the hills hare and ptarmigan, the skins of the former being valued highly for our winter stockings. Kai-we-ark-suah preferred the use of his .22-cal. rifle to the shot-gun. Surprised at this, I learned, through questioning, that a few days previous he had pulled both triggers of the shot-gun at the same time. "Plenty powder, plenty kill!" It nearly did.

Tanquary reached home on the 10th, followed by Jot staggering along the shore of the fiord with drooping arms, declaring that for the last sixteen days he had not seen a blessed thing but a snow-bunting! His vivid description of the country through which they had traveled was such that I imagined it to be similar in its characteristics to the Grand Cañon of the Colorado. It was certainly good to have Jot return from one of his trips. He declared that he was going indoors for the winter! The Eskimos, however, reported nineteen caribou killed, a very good two weeks' work.

It is most remarkable, indeed almost incredible, how a man will increase in weight following a hard trip in the Arctic regions. A pound a day is a common occurrence. In seven days Tanquary put on nine and one-half pounds, while Hunt added six pounds in three days!

The harbor had now frozen over. With the retreating sun the days were gradually decreasing in length. On October 24th the sun appeared for the last time. There was no weeping on the part of our Eskimos. There never is. The coming of the great night is a part of their life and is looked forward to with pleasure. It is the time of companionship and visiting. Mothers see

their daughters; fathers see their sons. The crowded igloos are filled with laughter and good cheer. The dark night is one long, delightful holiday. The northern native is resting from his labors of spring, summer, and fall.

Ever since our arrival among our northern friends we had planned to entertain them with a vaudeville show. As we gave it on the 19th of December, it will live, be recalled, and be re-enjoyed for many years to come. Requested to leave the room, they discovered, upon their return, a well-arranged auditorium with seats, stage, and drawn curtain, upon which they glued their eyes, in eager anticipation of the event of the year. And when that curtain did roll back, revealing, not the familiar faces of the seven white men, but a hideous, leering row of imported masks, the yell which arose was in perfect harmony with the five different keys in which we were singing. The Eskimo children in the orchestra seats gasped, opened their mouths in terror, and fled, some over the backs of the chairs, some under and some around, scurrying for cover like a brood of quail. Two disappeared through the door and were found in the igloo beneath the house, buried deeply in the skins of the bed platform, and there they remained.

The second act was by far the most startling. Doctor Hunt performed a mock operation, etherizing Jot and removing from his stomach a six-pound can of pemmican, a ball of twine, a box of cigarettes, and a large piece of walrus liver. When, as the finale, the doctor severed the head, grasped the apparently animated body, and threw it into the audience, there were gasps of horror which immediately changed into roars of laughter upon the discovery that the grinning head was attached to another body concealed beneath the table!

VII

TO UPERNAVIK AND BACK

NOW that Crocker Land had been proved a myth and our original plans for Arctic work were, therefore, curtailed, it was absolutely necessary that the various institutions under whose auspices we had sailed should be apprised of the fact in order that a relief-ship might be despatched to us in 1915. I deemed it imprudent to trust so valuable a mail to Freuchen and his Eskimos who journey south every spring, so I planned to sledge across Melville Bay to Upernavik in South Greenland during the moonlight periods of December and January, a distance from Etah of some 500 miles. This trip would, I believed, add considerable ethnological data through my getting into personal touch with every man, woman, and child in the Smith Sound tribe. A December start was somewhat unusual, but the Dane readily agreed to it and promised to make all arrangements for dog-drivers and meat.

Early in the fall, Tanquary surprised me with a request to accompany me on the journey. There was every reason why this request should not be granted; there was only one why it should—his enthusiasm for field-work. I consented to his going, and I am sorry to say he met with misfortune on the journey—badly frosted feet and the loss of both big toes.

A LONELY GRAVE IN THE FAR NORTH

Sonntag was the astronomer of the Kane Expedition of 1853–55, and of the Hayes Expedition of 1860–61.

PORT FOULKE. WINTER QUARTERS OF HAYES EXPEDITION

We were off the day before Christmas, with fourteen Eskimos headed south to visit friends and relatives—the annual gossiping trip. Tanquary rode on my sledge until dogs could be purchased.

As we passed around Cape Alexander, the Crystal Palace Glacier gave us its usual reception. With a howling wind and drift at our backs, we raced down from the summit to the sea amid the snapping of whips, the yelling of the men, the bound and leap of sledges, and the crying of securely bundled children. The sledges were carefully lowered with rawhide lines over the nearly vertical icy face to the ice-foot bordering upon a smoky, open sea. Working along a narrow ice-foot in the dark with an energetic train of dogs is extremely hazardous. Often the preservation of one's very life exacts every ounce of strength. Constantly alert to avoid protruding rocks, rubbles of ice, holes, deep cracks, and slippery slopes leading to the sea, quick decisions are imperative; action must be immediate. It is a glorious fight against the antagonistic weapons of the Northland! And when the last round is fought, although the temperature may be at fifty and sixty below, one is reeking with perspiration.

As we started south that night, a section of the ice-foot cracked beneath our sledge and fell seaward, leaving Tanquary, who was guiding the sledge, with one foot over the crevice, fairly tottering on the edge. Three seconds previous in time or three feet in advance might have brought about serious results. Such an incident, one of many, is but typical and is well illustrative of Arctic work.

Christmas Day found us reeking with sweat, pushing and pulling our sledges up over the Clements Markham

Glacier. As I was going back on foot to help Ah-we-ung-o-na, who had pluckily driven her husband's dogs all the way from Etah, I jumped hastily to one side upon rounding a sharp turn, face to face with what resembled a huge bear. A laugh and a few Eskimo words identified the strange beast as Tung-we on all-fours. At Etah he had suffered a painful accident by stepping upon a long nail, forcing it so deep into his heel as to incapacitate him for some weeks, and thus compelling his wife to handle the team.

The lights of Kah-na were a cheerful sight. Coming out of the darkness and the cold of the trail, the little squares of light behind which we knew were food, warmth, and good cheer were blessed again and again. The village was crowded. Every bed was more than filled. Tanquary and I declined all proffered hospitality and slept on the ice with our backs against our sledges, sacrificing a bit of comfort for the sake of freedom from lice, the prevailing scourge of an Eskimo home.

A short run on the 27th brought us to the village of Ittibloo. The roar of wind on the glacier precluded all thoughts of an attempt to cross the land into Granville Bay. Two snow houses were quickly constructed for the accommodation of our party, and we were ready for the trail when the weather would permit. The Eskimos at Kah-na had informed us that rounding Cape Parry was impossible.

We awoke to a clear starlit sky and an almost weird stillness, which indicated a total subsidence of all wind. The soft footing on the upward slope was a bit tiring to men and dogs, but the dash down from the summit would have been exciting and enjoyable had it not been

for rocks and grit, grating on our nerves as much as on the steel runners of our sledges. Hot tea and biscuit at the foot of the glacier renewed our strength for the long trip to Umanak (North Star Bay), where we arrived in twelve hours, a distance of fifty miles from Ittibloo.

Freuchen welcomed us warmly and announced his readiness to start south at once. The Eskimo girls, however, insisted upon a farewell dance. To the strains of a squeaky victrola endeavoring to coax music out of a few deeply scored and well-worn records, we stepped through the plain quadrilles with the half-breed missionary and three South Greenland belles, one of whom was with child, one just married, and the third plainly setting her cap. It was certainly amusing to see E-took-a-shoo and his bearskin pants being shoved from corner to corner, absolutely helpless and bewildered. Seated upon his sledge, snapping out his long whip over the backs of his galloping dogs, he is a picture—but dancing! We decided to have another ball the next night.

After the dance we visited the Eskimo igloos. In one was Tah-ta-ra, a helpless cripple of whom Peary wrote twenty years ago. I had understood that his body was being slowly ossified, but Doctor Hunt informed me that it was bony ankylosis, or arthritis deformans. It is a disease of doubtful etiology, but it was long believed to be associated intimately with gout and rheumatism. Their relationship seems now to be disproved. Doctor Osler writes that it is the "result of infection, characterized by changes in the synovial membranes, cartilage, and peri-articular structures, and in some cases by atrophic and hypertrophic

changes in the bones." That sounds fatal. The Eskimo died a few months after.

Ah-nah-doo, one of the oldest in the tribe, gave me an interesting bit of information in regard to the mysterious death of Sonntag, the astronomer of the Doctor Hayes Expedition of 1860–61. Doctor Hayes, in his book, *The Open Polar Sea,* hints at foul play, and was never quite satisfied with the explanation of the Eskimo Hans, Sonntag's companion. The old woman averred that the sledge upon which the white man was riding south from the ship plunged down a steep embankment into the sea; and that Hans, the Eskimo driver, designedly did not warn the man of his danger, nor make any effort to save him. To my question as to why Hans should be guilty of this treachery she replied: "Hans wanted all the white man's things for himself. He distributed them among his relatives at the different villages."

However, I attach no importance at all to the story. Such an accident might easily happen to an inexperienced white man; and undoubtedly it would prove fatal at low temperatures to one clothed in woolens, unless shelter could be reached within a few minutes. Hans declared that he had done his best to get the freezing man to a place of safety, but that Sonntag died on the way.

With Freuchen's help we secured dogs for Tanquary, and we planned to add to the number at Cape York. When we were on the sea ice, ready for the start on the morning of the 31st, Peter (Freuchen) exclaimed:

"Vate von moment, blease!" He returned within a few minutes with the remark, "Vel, I have doon it!"

"What was that, Peter?" I inquired.

"I have married them."

"What did you do?"

"Vel, he said he vanted her, and I said dat was all right. Now ve vill go."

Indeed, a typical Arctic romance. No courtship, no prearrangement, no ring, no license, no promises, no love. Could anything be more primitive?

On the march some thirty miles below Umanak we stopped at "Park-e-to," a rocky cave in the cliff opening at the level of the sea, a historic spot, and one almost sacred in the tales and traditions of the Smith Sound Eskimo. Here for centuries these Northern people have taken refuge from driving winds and snow, have kindled their seal-oil fires in their soapstone lamps, have eaten their raw, frozen meat, and have chanted their weird, primitive songs. Seated there in the shadows thrown by the uncertain light of a torch, one's imagination ran riot, leaping in bounds far back to the early days of man. Where were these people when these hills were covered with giant trees, when the valleys were bright with flowers and the fiords were rippling with warm sunlight? And whither did they retreat when all the Northlands were buried deep in ice, obliterating the highest mountains and flowing south to the latitude of New York? Did they follow the retreating edge of the glacier, ever pushing on in pursuit of the polar bear, the musk-ox, the walrus, the caribou, and, having forgotten the warm Southland, are they now content to dress in skins, live on meat, and abide here always? Or did they arrive from the Far East by way of the fabled Atlantis and then scatter northward, westward, and southward to North America? This we do know—that the Eskimo of to-day is very closely

connected with the Japanese or Chinese, as external appearances would indicate, and is closely associated with the North American Indian; that his home was in the northwestern part of North America, and not across Bering Strait; that he was driven down to the sea by the Indian; that he migrated north, inhabiting all northern lands to the edge of the Polar Sea. His traditions, many of them, are the traditions of the North American Indians. His language is polysynthetic and agglutinative, as is that of the North American Indian. Strange, happy, laughing nomad of the frozen North, living far away from the toil and strife and travail of civilization!

Ak-pat by moonlight seems unreal, a product of the imagination. Enraptured, as with the dignity and beauty of a great cathedral, we drove along the base of the towering cliffs guarding the entrance to the village. The stars in that cold, clear sky seemed almost within one's grasp.

How glad the Eskimos were to see us! And how generous with everything! Koo-la-ting-wa was our genial host. Nothing in his well-stocked larder was too good for his white friends, or too old. He harnessed his dogs and bounded away into the moonlight. Within a half-hour his sledge stood before our door loaded with frozen murres (*Uria lomvia lomvia*) and fetid seal, a part of the harvest of summer months. Although the birds were not exactly fresh, having been packed away uncleaned and warm in sealskin bags five months previous, they were banquet food to these uncritical northern gourmands.

After our evening meal, Peter, the Dane, discoursed long and eloquently upon the merits of socialism. The

old year went out; the new year came in, and socialism still reigned. I may add that Freuchen has definitely renounced civilization as being unfit for man. He has married an Eskimo girl and has settled down for life at the top of the world among ideal socialists.

Our dogs raced over a beautiful sledging surface to Cape York in seven hours, where we found three igloos occupied by three very prominent men of the tribe, all valuable assistants to Peary in times past—My-ah, Ahng-ma-lock-to, and Ahng-o-do-blah-o. The last is universally acknowledged to be the greatest hunter in the Smith Sound tribe. We feasted on raw polar bear—delicious! and our dogs were filled to repletion. Happiness and contentment reigned in and out of the igloo.

Three of my dogs, unfit for the long trip, were left at this settlement to await my return. Three more were secured for Tanquary, thus completing his team; he drove them exceptionally well, considering that this was his first experience.

Kikertak (Salvo Island), a few miles east, was our next stopping-place. Here lived Oo-bloo-ya (Star) and his wife, Ka-sah-do, who illustrates well how an ethnologist, through a misunderstanding of the language, may arrive at a too hasty conclusion.

Ka-sah-do has had a very trying experience. Some years ago she and her three children were starving. They were so hungry that one of her breasts was almost destroyed by their teeth. She finally resorted to the expedient of slitting the ends of her fingers, thus permitting them to suck her blood. To-day the injured breast is gone, the other is prominent. The scientist in question, upon seeing the mother seated upon the right of the igloo as one enters, and the child

nursing from the right breast, concluded that the left had atrophied through disuse, it being inconvenient for the mother to feed her child from the "inside"! This was published and accepted as gospel, if not scientific, truth.

Oo-bloo-ya was not to be outdone in hospitality by our previous hosts. A new and strange dish awaited our ever-ready appetites, sharpened by healthy work and strengthened by the purest of air. What resembled in outward appearances a fat frozen seal was squeezed through the small circular entrance in the floor. With a sharp knife a slit, about one foot in length, was made in the belly. The man of the house rolled back his sleeve, plunged his arm in to the elbow, and withdrew it, smeared with grease and clutching black strips of meat. "Sausages packed in lard, same idea!" said I to myself. Strips of sun-dried narwhal packed in narwhal oil! Was anything ever better! Long we ate, and swelled and slept, and ate again, and praised and thanked our host for his well-stocked larder.

Now that the village feasts were over, our retinue of camp-followers turned toward the north with other overflowing caches as their objective points. The report came to us from a near-by igloo that faithful E-took-a-shoo, our best man, was ill. This would never do. Clean grit from the soles of his sealskin kamiks to the hood of his sealskin netcha, I knew that he would go if he could wiggle his eyelash. Within a few minutes our sledge stood harnessed before his door.

"Yes," he grinned, "I am all right."

Here I had my first misgivings as to the probable success of Freuchen's plans, if he had made any, which I now doubt. Possibly familiarity with conditions had

bred contempt. He had negotiated the trip six times. The distance from Cape York across Melville Bay to Cape Seddon is 170 miles. This he planned to negotiate in three marches, which could easily be done with good going, no leads, and clear weather. He certainly depended upon such ideal conditions, as the amount of dog food upon our sledges and the nature of his equipment showed. We each had one seal—two meals for our dogs. I had no sleeping-bag. He had no compass.

I quote from my diary verbatim to show the inevitable result of a poorly planned Arctic trip and something of the dangers of crossing Melville Bay in the depths of winter:

January 4th, Monday.—To-night we are encamped on the ice, sleeping out; there is no snow suitable for a snow house. Every one pretty well iced up. Should judge it to be about forty below.

January 5th, Tuesday.—A succession of old ice, young ice, and open leads.

There must be a lot of open water somewhere. The bay is full of mist, obscuring the moon and cutting off our view shoreward. Only a short march. We cannot see where we are going.

January 6th, Wednesday.—Darkness and mist have again compelled us to stop with a short march to our credit. Wind is from what I judge to be southeast, and looks like snow. Still sleeping out; no suitable snow for an igloo.

January 7th, Thursday.—Blowing and snowing, but traveling much preferable to sitting on our sledges without shelter. Have been going in what we think is the right direction. We are to-night in the shelter of a very large berg. Shall remain here until the weather clears.

Henrick has left a bag of biscuit somewhere on the trail; rather a serious loss, as we have not many. Only one more feed for our dogs.

Very cold to-night. Am sleeping without shelter or a sleeping-bag.

January 8th, Friday.—Weather cleared during the night, a brilliant moonlight, giving us a good view of land. Thinking possibly

it might be "Took-too-lik-suah" (Cape Seddon), we are headed in toward it.

The snow has deepened, and as I am the only one who has snow-shoes, have been out in advance nearly all day. Should reach land to-morrow. Dogs very weak.

January 9th, Saturday.—We have reached something, but no one knows what, after eighteen hours of driving over sea ice in an easterly direction, or perhaps more to the northeast. Although Peter has been up and down the coast six times, he is unable to recognize the spot.

Henrick (a half-breed from South Greenland) is sick. He complained so much this morning that we put him in his sleeping-bag and lashed him to his sledge; and in this way he has ridden all day, we driving his dogs. He thinks that we are at Took-too-lik-suah, but Peter and E-took-a-shoo are in doubt. There is a heavy mist obscuring everything.

We have our first snow house to-night, having slept in the open five nights, and it seems like a home. Our last dog food is gone, and also all our meat, leaving us only a few biscuit.

January 10th, Sunday.—This morning it was as thick as mud and twice as black. We didn't know what to do, but finally decided that we could not go far wrong if we followed the edge of the land to the southeast. This is where we made a mistake and should have remained in camp. The land here trended to the northeast when our course should have been southeast.

After marching for some six hours through soft snow, we headed for what we thought was an iceberg, a low black line on the horizon. To our surprise, a nearer view proved it to be an island with a big black cave in the side of it. Upon examination we found the cave to be the vertical face of a cliff. How deceptive things are in the dark! In trying to examine this I broke through thin ice, filling both boots with water.

Off the point of Took-too-lik-suah, our objective point, there is an island. Thinking that possibly this might be it, Peter started west along the shore on a reconnaissance, while I started up over the top. After some laborious work I reached what I judged must be the summit, only to find, upon going on, there was a higher and a higher one with no apparent end. I was trying to cross Greenland in one night!

Upon Peter reporting that there seemed to be no limit to his shore-line, we constructed an igloo—a half-dugout affair—and have decided not to move until we know where we are. Henrick has now lost a can of oil, which doubles our difficulties. Our mittens and

boots are very wet. If we can't dry them, frozen hands and feet are the inevitable result. With no food, and no knowledge of where we are, this could easily develop into a serious affair.

January 11th, Monday.—Henrick and Peter were both sick during the night, the former coughing and spitting and breathing with difficulty, the latter bleeding at the nose.

It cleared up a bit this morning, giving us a fair view of our surroundings. We are in a deep bay filled with islands and inclosed by high hills.

Peter and Henrick try to encourage us by declaring that we are on the back side of the cape.

4 P.M.—Leaving our dugout this morning, we drove around the cape and well up the south side, hoping to find the igloos. We can see nothing; therefore have constructed another igloo.

When coming in here at 5.30 P.M. we headed toward the constellation Pleiades, which must be in the east at this time of day.

Dogs are very hungry and are beginning to eat their traces. Every night a few get loose and eat up everything and anything in sight.

January 12th, Tuesday.—Much to our relief, the mist lifted this morning, giving us a good view to the south. The point of land in the distance, perhaps twenty-five miles away, they all agree is our will-o'-the-wisp.

We started toward it at once, I leading the way on snow-shoes. About noon the weather thickened again, leaving us nothing but a few stars by which to direct our course. The Great Square of Pegasus I knew to be in the south at four or five o'clock in the afternoon; therefore directed our course to the left of that.

We at last reached what we concluded in the darkness must be the cape—a long, high ridge. Upon a close examination this proved to be a huge iceberg with numerous pressure ridges. We were all plainly disappointed, especially in view of the fact that there was no snow for a snow house and a light, cold wind blowing.

Getting into the ice for shelter, we made tea and ate our mouthful of biscuit.

To save our harnesses from destruction, we removed them from the dogs and brought them into an inclosure of five sledges. In constructing this, it looked for all the world as if we were preparing for an encounter with Indians.

No sooner had the boys got into their sleeping-bags and I under a piece of musk-ox robe, when fifty dogs made a rush.

"Dey are eating my head!" yelled Peter.

"They are pulling me off the sledge!" cried Henrick, in Eskimo.

Seizing a whip, I drove the dogs to a distance and lay down again.

But within a few minutes there was another raid upon harnesses, sledge lashings, and all skins in sight. To sleep was impossible; therefore with whip in hand all night I dozed, and walked, and struck, guarding what might be our life; for if harnesses were eaten and lashings bitten from our sledges travel would be impossible in this deep snow with only one pair of snow-shoes.

January 13th, Wednesday.—This morning we found it blowing and snowing. Knowing by the feel that it must be a southerly wind, we left camp with the wind in our faces, hoping to reach something, at least an iceberg, where there might be snow for a snow house.

We have plodded on through deep snow all day, slightly varying our course now and then, suspecting that the wind was changing to the southwest.

The surface has been absolutely level—not a crack, not a pressure ridge, not an iceberg. Were we out to sea or in one of the deep bays? No one knew. Upon my asking each one in which direction he judged the course to be or Cape Seddon to lie, no two agreed. One would have us head out into the middle of Smith Sound, one back toward Cape York, one toward the south, and two east.

We turned at right angles to our course and headed toward what I thought must be land. Gradually the pace grew slower and slower, and finally all sledges stopped. We were all plainly tired and lacked stamina. We have had no meat now for a week, and only about four ounces of biscuit a day (one-eighth of a ration), with tea and coffee strong enough to kill a Nascaupee Indian.

Each man dropped on his sledge; then lying in the snow, with backs against our sledges for shelter, we dropped off to sleep.

Awaking an hour later, somewhat chilled, I called all the men and advised that we construct some kind of a house from our sledges, which we have done by turning them over and covering them with skins as a protection against the snow, which is now falling rapidly.

Each man is standing a three-hour watch against the dogs armed with a whip.

January 14th, Thursday.—Snow falling all day and very dark. We are down to dog meat. Have killed three to-day, cooking one for ourselves and feeding two to the pack. The dead had hardly finished breathing when they were literally gobbled up.

The dogs are getting weak. Two of Tanquary's dropped yesterday in harness; one got away and started back on the trail. The poor thing has visions of food somewhere in the north. May he reach it!

All our biscuit are gone. The outlook from now on was dog

meat alone until Henrick happened to remember that some one was sending by mail two pounds of biscuit and a few ounces of sugar to her sister in Upernavik. We all agreed that this should be used in case of an emergency; therefore out it came and has disappeared.

Another night on watch with the whip to save harnesses and sledges. Our dogs will furnish soup for some time; there is hardly enough meat on them for anything else.

January 15th, Friday.—Here we are in a warm igloo surrounded with plenty of bear and seal meat after a hard day but with a good finish.

At five o'clock on the morning of the 15th the watch awoke us with the good news that it was as clear as a bell and Took-too-lik-suah only ten miles away. Tea was made quickly (the only thing we had), everything was packed, and away we went through deep snow, all anxiety thrown to the four winds.

It was a long, hard pull to land, for neither dogs nor men were any too strong. A long, low point trended well toward the southwest and we followed this closely for several miles. When nearly to the end of the point and leading the sledges on snow-shoes, I had the misfortune to break through thin ice up to my breast, catching myself on my outstretched arms, and thus avoiding a much-needed bath. But with the temperature at forty below, I was glad to forego that luxury until a later and more comfortable date. Well warmed by walking, such an accident does not begin to entail as much suffering as one imagines. Clothed in skins, although wet, they are still a protection to the body, for they continue to be impervious to the wind. Clothed in woolens, one would soon succumb in low temperatures.

Here we decided to throw off everything from our sledges and make a dash for the two Eskimo igloos. In fifteen or twenty minutes Nigger, my black dog, running loose, found a trail. He lifted his tail and quickened

his pace, my dogs straining to keep up with him. As he arrived at the depth of a bend, he disappeared up over the top of the cape on the dead run; and then came that prolonged howl of welcome from the pack tethered near the houses, a howl which was a welcome, a curfew, and a dinner-bell combined.

Our tired dogs, with drooping tails and drooping ears, were now rejuvenated and almost prancing as they swung around the point and headed toward the lighted holes in the snow.

With as much agility as my frozen clothes would permit, I made my way along the covered passage and stuck my head up through the hole in the floor. The lord and lady of the household were evidently just awakened by the chorus of welcome now in full crescendo. To the bulging, blinking eyes of the Eskimo, the dirty-faced, full-whiskered object at the entrance was his conception of the devil himself. He had come at last! He and his fathers and forefathers had often heard of him, but had never seen him.

I have never beheld abject fear so fully depicted upon the countenance of man. Before I could smile (which might have finished him), his wife recognized me, which is a distinct compliment to her intelligence. Ek-kai-a-sha, or "Bill," was one of our Eskimos upon the S.S. *Roosevelt* on the North Pole trip. When a little girl she had even spent a year at Washington, D. C., with Mrs. Peary.

The look on Mee-tak's face instantly changed to a grin as he watched me struggling to remove my wet bearskin pants and sealskin boots. My! but it was warm and comfortable. No more shivering and shaking on four ounces a day!

Maurice Cole Tanquary, Ph.D., soon arrived and forthwith fell to devouring raw bear meat like the wildest aborigine. Dog, bear, narwhal, caribou, seal, all raw, were graciously and thankfully received and thoroughly enjoyed. We remained there for eight days, eating and sleeping and resting and perceptibly swelling.

Tanquary had been an ideal traveling companion; he possessed an even temperament, never got excited, was always in good humor, and seemed by far the healthiest man in the Crocker Land personnel. Thus far he had withstood the trip admirably.

Our dogs? They ate and slept, then ate again. They consumed thirty seals one after the other. Their tails curled, their ears became erect, their eyes grew bright. They jumped to their feet, wagged their great heads, and uttered that deep growl so expressive of the real joy of living.

During our sojourn here the daily conversation of the gathered Eskimos teemed with interest and information. It appears that the whole coast-line from Cape York to Upernavik is dotted with old Eskimo igloos and tupik rings which show a distinct connection and close relationship between North and South Greenland tribes. How often have I read in connection with the Smith Sound natives, "Cut off from the south by the dreaded Melville Bay"! They have never been cut off. In the past, as to-day, sledges travel the whole stretch with nothing to fear.

We were greatly interested in a twelve-year-old boy at this igloo by the name of Kop-a-noo (Snow-bunting). Some years ago he and his mother were starving. It is customary in such circumstances to kill a small child rather than permit it to suffer. She, however, con-

cluded to let him fight for his life, outside with the dogs, by eating dung and refuse. This he succeeded in doing, scouring the hills for rabbit-droppings and whatever he could snatch from the dogs. His head is covered with scars inflicted in his struggles about the door for whatever was thrown from the entrance.

In the mail-pouch going south was a letter to the American Museum requesting that a ship should be sent in 1915 to transport the Crocker Land Expedition back to civilization, according to our agreement, in case Crocker Land failed to exist. I now placed two other letters, one to the Museum, stating that I would remain another year in the Arctic alone and independent of help from the Museum; and the other to my friend, M. J. Look, of Kingston, New York, requesting that he should send me provisions in case the Museum failed to do so.

It was now so late in the year that, should I go on and be delayed in returning, all our plans for spring work would be jeopardized. Ekblaw's plans, which I had promised to aid in every way, must be carried out. It was his wish to study the geology of Ellesmere and Axel Heiberg Lands and thereby solve some very important scientific questions. His route, as projected, lay across Smith Sound to the head of Flagler Bay; thence over the heights of Ellesmere Land to Bay Fiord; up Eureka Sound to the Greely Fiord; and on to the Lake Hazen region in Grant Land; then returning *via* Fort Conger, Kennedy Channel, and the Kane Basin. By going back now and putting my dogs in condition, I would be able to furnish him with a good team, even though Tanquary should fail to arrive with the dogs ordered from southern ports.

Tanquary, Freuchen, and Henrick left for the south on the 22d, the first with instructions to proceed with the mail to Upernavik, secure twenty dogs and other articles ordered, and then return to Etah as quickly as possible. E-took-a-shoo and I headed north across Melville Bay for a quick run up the coast, with nothing on our sledges but frozen narwhal meat, a gallon of oil, and a little tea.

Our dogs, following their long rest, were very stiff and demanded constant exertion of whip and voice. We made camp at the end of fifteen miles, fortunate in finding snow suitable for building purposes. A strong wind the following day caused us to appreciate our snug little home even more than on the night before.

A good twenty-eight miles were placed to our credit on the 24th, heading at the end of the march toward a large berg, where we hoped to find snow suitable for a house. In this we were disappointed. A hasty meal of tea and raw frozen narwhal; then back to back, a few deep breaths, and we were off to the land of our dreams—E-took-a-shoo to hills abounding in game, and I to the sunny Southland.

Our dogs were in a surprisingly good condition, considering what they had been through and the amount of food they had received while running us across Melville Bay in four marches. I am convinced that with good going this journey can easily be done in three, because we lost much time in following a lead of young ice far to the northeast.

Once more we enjoyed the hospitality of genial Ahng-o-da-blah-o. Here we were filled to repletion, for he served bear, narwhal-skin, little auks, seal, tea,

coffee, sugar, milk (!!!), and biscuit. With such a bill of fare, I did not care whether I moved or not. E-took-a-shoo didn't for several hours.

The time came for us to leave these good friends. The nearest settlement was a hundred miles away, the Eskimos having gone north from Ak-pat. Could we make it in one march? It was full moonlight and fifty below; not a breath of wind. The road was as hard as iron and flat as a floor. Ideal conditions! Our dogs were rested and well fed. Their little legs worked for eighteen hours. Up to within five miles of home not a trace had slacked, not a tail had lost its curl. Whitey, the hardest and most faithful puller in the team, staggered and fell. I stroked her head, slipped her harness, and left her lying on the trail. I watched her a long time, a receding dot in the fading trail, until she merged into the night. In the morning she was curled up with the team. She is with me now as I write. For her the long white trail is over. The others fairly dashed into Umanak, every one strong to the last and ready for more. Faithful, magnificent animals! They will live with me always!

There was no dog food here, which prompted us to move right on, following a one day's rest for our dogs. Where we were to get our next food we did not know. It looked like another starvation period for our dogs until we could reach the big spring encampment of the Eskimos at Nerky and Peteravik, where a hundred natives are often to be found hunting walrus in the open water far offshore.

The sea ice at Cape Parry was so completely gone and the ice-foot so impassable that, after a cursory examination, we walked back to our sledges. To go up over the

cape was our only recourse. We must go on; there was no food behind.

We were about to turn back when I suggested to E-took-a-shoo and other Eskimos, who were proceeding northward for meat, that we again examine the ice-foot. We concluded that with a little hard work a passage might be accomplished. Unhitching the dogs, we lifted each sledge bodily up over and through that chaotic mass of sea ice pressed high against the cliff. Arduous work, but preferable to returning and then ascending to the summit of Cape Parry.

Once around, a heavy wind and drift drove us into a snow house for shelter. Through the driving snow we could see a black, smoking band of water extending across our path and blocking our way to the westward. "How far north does that thing run?" was the all-important question as we drank our black, sweetless tea, and chewed strips of dried narwhal.

The first man up in the morning reported clear weather and the lead extending only a few miles. The dogs were now ravenous, not having been fed since we left Cape York, 150 miles to the south. Every corner must be cut and every chance taken. E-took-a-shoo and I directed our course straight westward toward the edge of open water; Ak-pood-a-shah-o and Ihrlli hugged the shore for safety. Skirting the edge of open water, we gained the strait between Herbert and Northumberland Islands, and here became confused in the darkness and the extremely rough ice caused by the swirling tides and currents of this section, which is recognized as one of the most dangerous on the coast. While we were endeavoring to effect a passage here, we were

joined by the other two sledges, which had crossed the Sound far to the north.

At length we emerged from a maze of bergs, holes, and snowbanks, and concluded to make camp on the western shore of Northumberland Island. All harnesses were removed from the dogs; coats, boots, whips, skins were taken into the igloo; and the sledges were stacked up against the cliff out of reach of the starving dogs. If the weather permitted, they would be fed at our next station, forty miles away. Five days of hard work, and on one of those days covering a hundred miles, is quite enough to give a dog an appetite.

We were off in the morning, determined to make our distance. That march in the moonlight across the great white expanse of sea ice between Northumberland Island and Cape Chalon (Peteravik) stands out prominently in my memories of five years of Arctic work. We drove from behind with whip and voice; I mingled with my dogs and cheered them on; then I rushed far out ahead, to whistle and call. I resorted to every expedient to place another mile under our feet. The tired, weakened dogs, with drooping heads and straight tails, plodded wearily on, the perfectly empty sledge crawling at a snail's pace behind them.

Gradually all the sledges dropped into the gray light far in the rear; I was alone. I held the course steadily toward black-striped Cape Chalon. There the Eskimos were in camp and must have meat. Fearful lest I might miss the igloos in the dark, the dogs were directed toward the front of the Clements Markham Glacier with the intention of following closely the shore northward.

The jaded dogs smelled home long before the lighted

skin window burst into view. Tails and ears came up, the pace quickened; and then came that glad short dash over the tidal crack through the broken shore ice to the level ice-foot.

In addition to the two rock igloos occupied by Sipsoo and Oo-quee-a there were three snow houses in which were Panikpa, Ak-kom-mo-ding-wa, and Ka-shung-wa. My dogs had dropped to sleep, as usual, each one a furry ball, never barking, begging, or whining for food. Panikpa started toward them with the frozen hind leg of a walrus, planning to chop it up and feed them piece by piece. The old king-dog became dimly conscious of the fact that something was coming, and jumped to his feet. In a flash his half-awakened team-mates stood beside him, as stiff as statues. When that incredulity turned to conviction, the positiveness that at last food was near, together with the medley of yelps came a mighty leap, tearing the hitching-strap from its ice fastening, and an overpowering rush. Panikpa, the meat, and the dogs were a pulling, tugging, snarling black mass. It was some minutes, and then only with considerable difficulty, before the three could be differentiated, and this was only accomplished by dragging the meat toward the hole in the ice, where the dogs were refastened and fed.

E-took-a-shoo arrived in about an hour. The other two sledges had given up and had gone in toward Nerky.

While we were resting our dogs here on February 6th, two of my Eskimos constructed one of the largest snow houses which I have ever seen. It was twelve feet in diameter and eight in height. It was my intention, after driving to Etah, to return here, join in the walrus-hunt, and put my dogs in condition for Ekblaw.

On the 7th we started for Etah and encountered the usual strong wind and smothering drift on the glacier. When at last I reached Borup Lodge I learned that Green and Allen were both under the doctor's care, the former in bed, a complete breakdown following a futile attempt to advance a depot of supplies for our spring trip. Green had attempted Arctic work contrary to the advice of his physician. Thus far his enthusiasm had held him to his work; but when homesickness replaced enthusiasm, then the natural result followed.

VIII

TO RENSSELAER HARBOR

THE carrying out of our plans for spring work during 1915 depended largely upon the date of Tanquary's arrival and upon the condition of the purchased dogs. If dogs and Eskimos could be secured, it was my desire to send Ekblaw to Grant Land by way of Eureka Sound, as he had planned; Tanquary to the Lake Hazen region as a supporting party to Ekblaw by way of Kane Basin and Kennedy Channel; Hunt to the Peary Channel with Freuchen; while I would go to King Christian Island far to the west.

I considered Ekblaw's trip the most important of all, and was ready and willing to sacrifice all the others, if need be, in order that it might be carried out.

On February 12th Doctor Hunt left with Oo-bloo-ya in response to a hurry-up call from sick Eskimos at Peteravik. An influenza of some kind or other was raging up and down the coast, resulting in a few cases of pneumonia, which carried off Kud-la in a few days. Fright was about as harmful as the disease. The doctor returned on the 15th and reported all the Eskimos much better and well supplied with meat. He at once began preparations for his ice-cap trip. Mene, the New York Eskimo, arrived with Doctor Hunt and was very re-

pentant over his failure of the year before. He urgently requested that he be given another trial and be permitted to accompany Hunt to the Peary Channel.

On the 14th, to reassure Ekblaw of the certainty of his trip, about which he had been worrying considerably, I turned over to him all my dogs and gave him a free hand to help himself to any or all of the equipment and supplies of the expedition. He left on the 16th for the south to visit Eskimos and improve the condition of his dogs at Peteravik.

Encouraged by the daily glow of light along the summit of our thousand-foot hills to the south, I walked to the top of Thermometer Hill, 1,100 feet above the sea, for a first view of the 1915 sun. There it was, just above Cape Alexander, after its long absence of 126 days, partly obscured in the mist rising from the open water south. In a few days now it would be streaming into our front windows.

Upon the arrival of Ekblaw, Ah-now-ka, and I-o-pung-ya on the 26th we learned that very few walrus had been killed by the Eskimos and that the dogs were starving all along the line—not an encouraging report, and one which prompted me to drive down at once with sledge loaded with trading material, hoping to condition all the dogs that were scheduled to start on the western trip in March with Ekblaw and his men. Forty below, a keen wind, and a very slippery southern slope on the glacier added to the interest and excitement of the journey. Neither the dogs nor the men could keep their feet, resulting in a grand mix-up, and the unmixing called for patience in the superlative degree.

Upon my arrival at Peteravik, to my surprise I found E-took-a-shoo and E-say-oo, the two men engaged to

go with Ekblaw, very much discouraged over the condition of their dogs; they didn't think they could take the trip. Upon my suggestion that they permit their dogs to rest for a week or so, promising to trade for and provide meat, they felt better and agreed to start on schedule time.

The Eskimos gather here every spring after they have used up all their cached meat, to hunt walrus and bearded seal in the open water offshore. It is the great annual picnic of the tribe, where stories of the hunt are told and retold by the long, black-haired warriors; where the latest gossip is punctuated with sly winks and bursts of laughter from the chewing women; where games are played and stunts performed by red-cheeked, foxskin-clad, laughing children.

It was between forty and fifty below for ten days, and yet the children laughed and played, apparently as unconcerned as our children upon a summer day. When meat is plentiful I can imagine this to be by far the happiest time of the year, and I can see them reluctantly packing their sledges in April to separate, perhaps for the year, for their respective homes a hundred miles apart; and to remain separated until hunger again brings them to Peteravik.

Every favorable day found the men and boys far out at the edge of the ice, watching the surface of the black, smoking leads, ready to battle royally for rich, red meat. Great, fierce-looking heads break the surface, the powerful ivory-white tusks standing out in strong contrast against the massive black necks. The fur-clad hunters, with harpoons tightly gripped in their right hands and coils of rawhide lines in their left, whisper excitedly, crouch, and emit, in imitation, the dis-

cordant deep grunt of the walrus. The heads turn at the familiar cry, rise slightly out of water, dive, and with vigorous strokes boldly proceed toward the dark mass at the edge of the ice. As the heads break water again there is a swish of flying harpoons and trailing line. An angry snort and a mighty splash! Quickly the iron-pointed "toque" is driven deep into the ice through a loop in the end of the harpoon line, and then the struggle begins, a battle which sometimes lasts for hours! How about your twenty-pound salmon on an eight-ounce rod? We have here a two-thousand-pound bunch of plunging muscle on a quarter-inch singing, humming, twanging rawhide line! And not for pure sport is the struggle waged, but often for the life of the starving dogs and for the very existence of the pinch-faced wife and children snuggled up for warmth in a snow house beneath the cliffs.

And even when the quarry has been secured and partly dismembered, there may come a hurried cry of warning, a dropping of the meat, a rush toward dogs and sledge, a snapping of whips, a race for life against a change of wind and a breaking up of the sea ice. Rushing from far offshore one day in the midst of an excited throng, I was astonished by the sudden breaking up of ice and the tumultuous rising and falling of the different sections over a surface which a few minutes before had been so placid. Yes, it is a precarious existence which these polar children lead, but a glorious one! How much grander and nobler to fight the primeval elements of the Northland than the enervating diseases of the South!

Meat came in very slowly. There were reports from Kee-et-tee of the Eskimos being compelled to eat their

dogs and burn their sledges. *Piblockto* (a form of rabies) was in the pack, and the dogs were dying every day. There were also rumors of another strange disease lately arrived from South Greenland, with which the dogs sickened, "became weak and emaciated, staggered, and did not get up again."

All the Eskimos agreed that this was the hardest year they had ever known. I saw my own plans and hopes dwindling to nothing. All now depended upon Tanquary and his new dogs, plodding northward from Upernavik.

By the 16th Ekblaw's dogs were in splendid shape, full of life, jumping and tugging at their hitching-straps, which they had not left from the time of my arrival. Ak-pood-a-shah-o got away for Etah with a load of meat and a note to Ek, telling him to expect me in a few days.

The cold weather had broken. The temperature had risen to twenty-three below zero. On the floor of our snow house it stood at just zero; at the level of my head when seated upon the bed platform it was fifty-three above, a temperature which was made possible through the skin lining of the house that retained the heat and shed all drip.

On Thursday, March 18th, at six in the morning, there was a "Hello, Mac!" at the window. Tanquary had come at last—but with badly frosted feet. He was optimistic, as usual, declaring that he would be all right in ten days. One glance, however, at the frozen toes convinced me that he was through for a while. He followed my advice and left at once for Etah, in company with three Eskimos, where he could avail himself of the services of Doctor Hunt.

The trip from Peteravik to Borup Lodge on Friday, March, 19th, driving fourteen dogs in the pink of condition, was, to say the least, exhilarating. In spite of the fact that my sledge was loaded heavily with walrus meat, the dogs went out of Peteravik like a whirlwind, and up the coast as if the evil spirit of the North were behind them.

A beautiful day on the Crystal Palace Glacier—too good! What did it mean? I was soon to learn. My dogs, reaching the summit of the divide, leaped into their traces for a record run down to the sea. Having broken my whip, I yelled, pleaded, coaxed, and even whistled for them to stop. When about to slow down, my white bitch, snapped her trace and was off, with her big bushy tail waving good-by! Now there was no stopping the team. Clinging to the upstanders, braced back to the limit, with my feet firmly planted between the runners as a brake, we skimmed the surface, pitched down the sharp slope leading to the trough between the glacier and the cliff, and landed in a deep hole on a pile of rocks. Wearily and somewhat battered, I regained my feet and glared at the dogs innocently licking their feet. Then came a distant roar, the sound of E-took-a-shoo's voice, and a swish, as leaping dogs, sledge, and a stocky form barely missed the hole and shot down the valley. A fine day on the glacier!

A cutting wind and drift at the Crystal Palace Cliffs frosted the face of every man. The dogs, however, were in such fine condition that they did not need much urging, and kept the trail so admirably that we turned our backs and yielded to their guidance.

Ekblaw and his six Eskimos finally got away at nine o'clock on March 24th. At six o'clock the party re-

A FINE DAY, GOOD GOING, AND A GOOD TEAM

turned because of violent winds and drift beyond Sunrise Point. Another trial on the 25th resulted in a second return. The dogs could not face the drift. The party left finally and successfully on the evening of the 26th, having waited impatiently through two whole days for wind and drift to subside.

Two men were to return from the head of Bay Fiord, two from far up Eureka Sound, and two, E-took-a-shoo and E-say-oo, were to accompany Ekblaw for the whole distance.

Tanquary was plainly out of the game. Hunt's plans depended upon the wishes of Freuchen; mine upon the condition of the dogs purchased by Tanquary and left at Nerky. Harnessing a few pups and cripples, Hunt and I started for Nerky and Peteravik on a reconnaissance. Fifty-nine Eskimos were assembled at the latter place, nearly one-quarter of the whole tribe, all driven from their home in southern villages by lack of food. Sledges were coming every day, reporting caches empty, and, because of the vast extent of the sea ice, game was scarce and difficult to secure.

On the evening of the day of our arrival, Ah-we-gee-a drove in with the survivors of Tanquary's team, fifteen out of twenty. Perambulating skeletons! How Tanquary ever drove them from Upernavik to Cape York I do not know. All honor to Tank! Two were plainly dying; the others were far from optimistic. Meat was what they wanted, and this was given them, just as much as dog-biscuit, tobacco, and oil would buy. They gradually regained their strength, as was evidenced by the elastic step, the straightening of the hooped spine, the erect carriage of the body, and the wagging tails—they were dogs again.

The annual sickness, imported with the mail from the south every spring, was now prevalent; nearly all the Eskimos were vomiting and many had diarrhea—the heavy tax imposed upon the germ-free native in return for the comforts and luxuries of his white brother in the South.

Every morning these hardy hunters hitched their dogs to their sledges and headed out over an apparently interminable field of ice toward the open sea below the distant horizon. Eagerly the wives and children watched the whiteness for a returning black dot, which, as it approached, often developed into tired dogs and an empty-handed, frost-bitten driver, driven homeward by the bitter winds sweeping from the Greenland glaciers off toward the south. Or on a luckier day, the heavy load of frozen red meat would be met and escorted triumphantly into the snow settlement by a troop of stray dogs and expectant little ones.

These men were struggling for existence under conditions which daily resulted in ice-stiffened traces, frozen boots, frozen mittens, scarred faces, and black hair turned snow-white with frost! I determined to go and see for myself how the struggle was carried on. On April 10th, Tung-we, Teddy-ling-wa, Mene, and I sledged to the edge of open water far to the south. And now not a track or crack or smallest hole escaped these ever-watchful, sharp eyes. The native finds meat and lives where you and I would see nothing and die. Tung-we, apparently as unobservant as myself, grabbed his sealing-iron and coil of rawhide, sprang from his moving sledge, ran ten yards to the right, and half inclined his body over a two-inch hole in the surface of the ice. We held our course steadily in order to re-

move all scent from the immediate vicinity. Upon looking back at the end of a half-mile, we saw Tung-we raise his harpoon, plunge it downward, and struggle to check the rawhide line now slipping through his hands. We drove back at full speed to be in at the death, but before reaching it a hundred-pound seal (*Phoca fœtida*) lay wriggling upon the ice. He had returned to one of his many breathing-holes to be killed by the wary Tung-we. Only a mouthful for our forty-four dogs, but a very acceptable one, seeing that the Eskimos were to travel for sixteen hours, only stopping now and then to untangle the traces. On and on and out we went through broken ice, over thin ice, and along the edge of smoking, black leads.

At midnight we hitched our dogs and proceeded on foot, listening and scanning the surface of every pool. At two o'clock we went back over extremely thin ice. At three the sun rose, a lurid, distorted ball mounting through the heavy vapor. A rest of two hours cuddled up in a cleft in the ice, hot tea, and then on again wearily and drowsily dogging the heels of those tireless hunters.

At length a large walrus was discovered asleep on the rapidly moving drift ice some 300 yards away. I thought it was positive suicide to approach him over such a treacherous surface. Yet Mene and Teddy-ling-wa, without the slightest bit of hesitation, made their way from cake to cake, now and then carefully gliding across dark, bending ice, up to within twenty yards of the ponderous, sleeping bulk, and here they were blocked by an impassable stretch of water. We saw them now flat on their breasts with sighted rifles. Two sharp reports were followed by a tremendous splash as the 2,000

pounds of meat disappeared, to be lost beneath the surface.

In the mean time Tung-we and I were following the moving mass of drift ice slowly along the edge of the unbroken field, very much concerned over the safety of the other two men. Gradually, the intervening black strip of water widened, cutting off their escape. To the south an iceberg, against the outer edge of which the moving field was crushing and grinding, might serve as a bridge. Running to the summit, we signaled the men to make their way to this point, which they reached after several narrow escapes, dripping with perspiration, both breaking through and filling their boots on the very last step.

Within a few minutes after landing, a herd of ten walrus appeared on the surface, sixty yards away. Instantly we all crouched and uttered the far-reaching, guttural cry with hands to mouth. "They are coming!" whispered Tung-we, grasping firmly harpoon and coil, and planting his feet solidly in the slippery ice. Running backward to embrace the whole scene in the finder of my graflex camera, I awaited the climax. The action began with a swirl, followed by a mass of grim, ugly faces at the very feet of the hunters—so near, in fact, that the men, astounded, were caught unawares, delayed action for a few seconds, and then excitedly hurled their harpoons. The harpoon of Tung-we plunged over their heads and backs; that of Mene stopped suddenly in mid-air and fell harmlessly flat down. Tung-we, disgusted and ashamed, expressed himself as befitting the occasion. Mene grinned sheepishly upon discovering that he was standing upon a flake of his coil.

Hungry and sleepy, we reached land on the night of

the 12th with empty sledges, boots and mittens frozen, and traces a ball of ice. We had tried for thirty-six hours and had returned beaten—a common experience in the life of the Smith Sound hunter.

On the 12th, Hunt, in training now for a bear-hunt in lieu of his abandoned ice-cap trip with Freuchen, started on a twenty-five-mile walk to Etah, sleeping with the Eskimos at Sulwuddy, ten miles away, the first night and covering the remaining distance on the second; he reached home about two hours previous to our arrival from Peteravik, which we had left with our dogs that morning.

Our dogs were now in fair condition, and it was decided that Hunt should accompany his favorite Eskimo, Ak-pood-a-shah-o, to the musk-ox grounds beyond the heights of Ellesmere Land for specimens. Ah-now-ka and I would take a run up the Greenland coast in search of polar bears, usually found off the Humboldt Glacier in the spring of the year, searching in cracks in the ice and at the base of bergs for their natural food, the seal. We were off together on Sunday, April 18th. Rough ice, however, in the vicinity of Cape Ohlsen, so badly shattered Hunt's sledge that he was compelled to return to Etah with his Eskimo for a new one, while Ah-now-ka and I pitched our tent at Cape Ohlsen to await their return on the morrow.

Both parties proceeded northward again in the morning, and called at Littleton Island for a cache of eider-duck eggs left there the preceding June. The sea ice north of the *Polaris's* winter quarters near Life Boat Cove was extremely rough, resulting in very slow progress to Ka-mowitz, our usual first camping-place. In the morning we bade good-by to the western party,

which headed due west out over the ice of Smith Sound, while we proceeded northward, following the ice-foot closely, stopping at night for two hare and a ptarmigan which we saw on the hillside.

From Force Bay northward the ice-foot along this coast is truly a revelation. I have never seen anything like it anywhere else in the Arctic regions. Kane, in his narrative, often speaks of the ice-foot in the vicinity of his winter quarters, but does not begin to describe its wonders or the tremendous advantages which it offers for rapid travel.

The formation of this so-called ice-foot or ice-collar, even in our best and latest text-books, is inaccurately described. Snow has no part whatever in its building. After it is once formed, falling and drifting snow may lodge thereon and add to its apparent bulk. The ice-foot proper, however, never exceeds in height that of the highest tide, and it is slowly built up from low-water mark by accretion, each receding tide leaving its congealed deposit. An ice-foot may form in the same way on the perfectly vertical face of a cliff where snow could not possibly lodge. And in the same fashion it may furnish passing sledges with a good but often dangerous highway.

The width of an ice-foot depends entirely upon the angle of the slope from high-water to low-water mark, varying from the narrow ledge clinging to the vertical face of a cliff to the broad marge resting upon a gently sloping beach, often 200 yards in width and as smooth and level as a floor. The last is descriptive of what is to be encountered all along that northern shore from Force Bay to the Humboldt Glacier, contrary to what one would expect to find beneath the almost vertical

cliffs, 500 feet in height, that mark the abrupt termination of the plateau which stretches back for twenty or thirty miles to the edge of the Greenland ice-cap.

These stratified cliffs are highly interesting in their massiveness, in their gradation and variation of color, and in their outstanding, towering pillars formed by weathering. This is the locality of the famous Tennyson Monument, so named by Kane in 1853. Long and diligent search, however, failed to discover it, but we found others equally as interesting and remarkable in shape.

Although he was only a young boy, I depended upon Ah-now-ka and his trusty rifle for fresh meat for ourselves and dogs. We descried our first seal on the ice on April 21st. This he failed to secure because of the impatience of his dogs, which resulted in a rush forward and the consequent disappearance of the seal.

The first evidence of the Doctor Kane party was seen at Cape Inglefield; it consisted of three cairns and a circular wall which the boy informed me had been built by white men many, many years ago. Later, other cairns were found all the way from Rensselaer Harbor up to Cape Scott. We saw only one fresh bear track during our short trip; we followed it for several hours but without result.

At a point about ten miles beyond Cape Leiper we left a cache of food in anticipation of a future trip, and started back down the coast for Anoritok. We found the ground of this settlement littered with evidence of civilized man—an old cook-stove, rubber hose, a barrel, pots, buckles, hinges, leather, bottles, and other rubbish. An unusually large number of old Eskimo igloos, eight in all, indicated that this was at one time a thriv-

ing and prosperous village. Facing to the southwest and protected by high hills from the cold northerly winds, it offers a delightful spot for a settlement, for in summer the grass must be long and green, the air warm and sunny, and the waters teeming with life.

We reached Borup Lodge on the 28th of April, and learned that Arklio and Noo-ka-ping-wa, Ekblaw's first supporting party, had returned, each having killed a bear and many musk-oxen. Letters from Ekblaw informed us that all was well thus far and that they were proceeding north through Eureka Sound. The three sledge tracks which we noticed on our return as going north proved to be those of Mene, Kai-ó-ta, and I-o-pung-ya on their way across Smith Sound to the hunting-grounds of Ellesmere Land.

On Monday, May 3d, Allen, Tanquary, and Green began counting the days before the ship would arrive, sure indication of a longing for the homeland. "Ninety-one more!" was the count on that day, but the ninety-one doubled and trebled many times before they reached home.

On Friday, May 7th, Arklio, Ah-now-ka, and I were off again into the north for bears and a visit to Rensselaer Harbor, Kane's winter quarters of 1853–55. Remembering the assertion in Doctor Kane's book that the distance from Etah to Rensselaer Harbor is ninety miles, I could scarcely credit Arklio's statement at the end of our second day's march at Bancroft Bay, that in the morning we had passed "the bay where many years ago the white men lived in a ship frozen in the ice. He went on to say that "here she remained for some time, following the going away of the white men to the south in two small boats; and that the Eskimos

found her and went aboard and built a big wood fire on the cabin floor to get warm, whereupon the ship burned up. What a loss that was and how valuable the wood would have been to us to-day!" In this bay we found two cairns inclosing the records found by the Eskimos the year before, one left by Bonsall and the other by Doctor Kane himself.

Our experience here with seals soon convinced me that Arklio was a crack shot behind the little screened sledge, by far the better hunter of the two boys, and one upon whom we could depend to feed our dogs for the remainder of the trip. He killed three seals in a few hours, while Ah-now-ka wounded four and lost them all. It was very amusing to see him rush toward one wounded seal disappearing into his hole in the ice, grab his hind flipper in his teeth, and with his two hands struggle violently to pull him back, at the same time trying to attract our attention by yelling to us with his mouth full of flipper. Finally, exhausted, he was obliged to let the seal go.

Another search of Bancroft Bay on the 11th failed to find any evidence whatever of the Doctor Kane party. Just at the entrance, however, carved upon the vertical face of a rock, I was thrilled to discover a large letter "K" cut with the sharp point of some kind of an instrument. Undoubtedly, sixty-two years before, Doctor Kane had carved this permanent record and had also built the demolished cairn a few feet from it. But the contents of the latter were now gone.

Thursday, May 13th, was a wretched day, raining and snowing as we awoke. In hopes of a bear, we packed up and plodded on, crossing the many bays and indentations from point to point until we discovered a

fresh bear track off Cape Kent. For two hours we followed this closely as it crossed and crisscrossed from berg to berg and from crack to crack. Finally, a great yellowish-white body was sighted a half-mile away, plodding through the snow from one berg to another in search of seals. Within a few minutes he stopped, lifted his nose, sniffed the air, and was away toward the south with a long, easy lope. Yell as we would, shout as we could, not an inch was gained for some time. Arklio and Ah-now-ka, realizing that we might possibly lose our quarry, finally slipped all their dogs, which now galloped along the trail with traces flying. Yelling at my dogs, "*Nan-nook-suah! Nan-nook-suah!*" snapping out the long whip, with one man riding on my sledge, and two running, we at length made our way through a mass of rough ice to discover a large, beautiful male bear surrounded by the leaping black bodies of the dogs as they rushed in, nipped, and jumped to one side to avoid the glistening white teeth and the swish of those powerful forelegs. It was evident that not a dog in the pack wanted to come to close quarters with this formidable-looking animal; in fact, we met some returning along the trail.

Slipping the remainder of the dogs, we closed in with the camera and with the rifles. One dog, encouraged by my presence, shot in a bit too close. The slowly wagging head whipped around like a steel spring. He grabbed the dog by the top of the head, whirled him around like a pinwheel, and slammed him down on the ice, a misshapen mass. "That dog is dead," I said to myself, winding the film for a new exposure, but within a few minutes the victim was a hundred yards away with a determined "I am going home" look on his face.

KANE RECORD FOUND ON NORTH GREENLAND SHORE

Note the "K" as carved by Kane in 1853.

ARROW CARVED ON THE SUMMIT OF FERN ROCK AT RENSSELAER HARBOR BY KANE EXPEDITION TO INDICATE LOCATION OF GLASS JAR CONCEALED IN A CREVICE

A ninety-pound dog held firmly in the steel jaws of a big polar bear is absolutely helpless. Finally a .22 h.-p. Savage did its work and did it quickly, as all killing should be done.

In this first bear-fight with untried dogs there were many surprises. Poor old Blinky Bill, mild and meek-looking as a sheep, proved to be a hero in disguise. Inoffensive, never mingling with the rest of the dogs, never picking a quarrel, thrashed by all, he fought like a demon, nipping, rushing, and jumping away until he was fairly wabbly on his legs. After the fight was over he retired modestly behind a lump of ice to nurse a thigh ripped completely open. One dog, a bully, supposed to be a born scrapper, became actually crazy with fright at the first slight dig he received. He did not appear to know where he was, and wandered off for half a mile, where he perched on an iceberg and howled dismally. Animals evidently are just as deceiving as men when it comes to a test of courage.

Our bear measured eight feet from nose to tail, six feet in circumference, and four feet around the neck. So with dogs filled to repletion and sledges loaded with meat and the rolled-up skin, we took the back trail to the spot where our sledges and camping equipment had been abandoned. We pitched our tent in falling rain, hail, and snow which continued all through the next day.

We cached our meat and skin on the 15th under the snow and proceeded toward the face of the Humboldt Glacier, so named by Doctor Kane after Alexander von Humboldt, the great naturalist and scientist. This glacier, one of the largest in the Arctic regions, stretches into the north for a distance of some fifty miles; it is

not at all impressive in its frontal face, only rising from the sea ice to a height of thirty or forty feet. The many bergs dotting Peabody Bay evidenced its activity during the summer months. Soft, deep snow, the result of the last two days' storm, turned us southward toward home. Then we saw our first glaucous gull and heard our first snow-bunting, harbingers of spring and of the long, delightful summer to come. Arklio shot a large seal which furnished us with plenty of meat for our dogs.

A long, hard pull of eleven hours through soft snow all over Advance Bay and in and out among the islands, looking for bear, seal, and cairns of the Kane Expedition, netted us only two hares and one small seal, which, strange to say, we discovered wallowing through deep snow far from his hole. Where the little fellow thought he was bound, it is hard to say. Ah-now-ka ran ahead and gathered him up in his arms before the leaping, excited dogs could injure him. He cuddled down in his lap as if he had at last found what he was looking for, a good, warm, comfortable place.

Upon our arrival at Cairn Point, we learned that Hunt and Ak-pood-a-shah-o had returned from the hunting-ground in Ellesmere Land with five bears and fifteen musk-oxen, a very good and profitable trip. On the 21st we were at Borup Lodge again, although compelled by open water to cross the land from the *Polaris's* winter quarters to Etah by way of the river valley, a course we took many times during the four years when the conditions by sea were not favorable.

At Etah we found a spring migration party of nineteen people, who were to proceed seventy-five miles up the coast in a few days to build their homes at Marshall

NOT A DOG DARED TO GO NEAR

Bay. Anoritok, as well as Etah, has often been reported to be the most northern settlement of the Smith Sound tribe. In times past, however, Eskimos have inhabited the whole stretch of coast-line from Etah to the Humboldt Glacier, as shown by the large number of old igloos we found upon this coast during our four years' work. But the Eskimos had not attempted a settlement beyond Anoritok for a great many years until this party proceeded up the coast to try their fortunes where some of their ancestors had lived. They were certain of plenty of caribou meat and skins, but not so sure of the much-needed walrus meat for their dogs, of the skin of the bearded seal for their boot soles, and that of the ringed seal for their coats and boots. Their fortunes during the subsequent months at this far northern spot answered the question as to why this coast had been deserted years ago by the natives. They returned to our house in the spring, poorly clothed and literally starving.

When he left Etah for the long spring trip, Ekblaw intended to proceed over the top of Ellesmere Land, north through Eureka Sound, east through the Greely Fiord, and thence to the Lake Hazen region and old Fort Conger headquarters of the Greely Expedition, returning home by way of Kennedy Channel, Peabody Bay, and Smith Sound. Before his departure I had assured him of a supporting party to aid him on the return trip; not that he would need food, for he would pass through one of the best game countries in the world, but he might possibly require fresh dogs for the last lap of a long journey, as we did in 1914. Doctor Tanquary was to be in charge of this work, proceeding northward to Fort Conger through the Kane Basin and

Kennedy Channel, where he would meet Ekblaw and return with him south to Etah. His frozen feet and the subsequent amputation of two big toes had compelled him to give up all thoughts of spring work and had kept him closely confined to the house. Green now was in fair shape and was willing to undertake the trip. On the 23d he got away, accompanied by two of our best Eskimos, Arklio and Oo-bloo-ya, with instructions to proceed to Fort Conger, to furnish Ekblaw with dogs to relieve him of whatever skins he might have collected, and then to return south to Etah.

During May and June we were very busy adding to our collection of bird skins and eggs, and we were especially fortunate in securing one fine set of the eggs of the white gyrfalcon (*Falco islandus*), very difficult to obtain in this north country, as the bird builds its nest high up on the face of the inaccessible cliffs.

On Thursday, May 23d, we placed five letters inclosed in bottles on the surface of a big berg off Sunrise Point; one to the New York *Tribune*, one to President Osborn of the American Museum, and three "To the Finder." Now that our wireless had failed, we would try one of the oldest methods of communication by trusting our mail to the ocean currents.

A bottle with note which I dropped in Baffin Bay in 1909 made its way in six months to the Old Kinsale Life-saving Station on the coast of Ireland. It was picked up by the patrol and returned to me with the information requested as to the locality and time found, together with the friendly words: "I would like to drink to the health of Commander Peary and his gallant crew. In joyful anticipation I thank you." Another, thrown into the waters off Cape Cod, was returned in two

months by a French boy living on the shores of Nova Scotia.

Some thirty notes in all were cast into the sea at Etah, well wrapped and inclosed in small oaken barrels, strongly headed and covered with a good coat of copper paint. Possibly at some future time these may be recovered, following their long trip at sea.

IX

WAITING FOR THE SHIP

OUR second spring with its continual day was now upon us. The big glaucous gulls (*Larus hyperboreus*) were sailing on outstretched wings along the face of the cliffs, ever ready to pounce upon one of the myriads of dovekies (*Alle alle*) which filled the air with wheeling black dots and a volume of music. The Eskimo tupiks were being erected one by one. Sledges, black with women and children, were passing up and down the fiord. One was of more than passing interest. Five small pups were straining at a heavily loaded sledge containing our bath-tub; and in the bath-tub were two undried bearskins, two children, two babies, and three women.

Fine weather and spring restlessness tempted me out onto the trail again—another thorough search of Rensselaer Harbor for the remains of the Elisha Kent Kane Expedition. A careful search at Cairn Point failed to disclose the "K" burnt on the rock with powder; the cairn, however, was easily found.

The run from Etah to Rensselaer Harbor, up to that time the most northern habitation of man, was easily accomplished in two marches. What a flood of book memories came over me as we rounded Sylvia Head-

land so often mentioned by Kane! There lay Butler Island, Fern Rock, the receding terraces, the group of rocky islets! Along this shore the little brig *Advance* was pulled and coaxed into her icy cradle to remain for two long years and then finally abandoned. And along this shore Doctor Kane, in retreat, had sledged the invalids south, followed by his crew in the drag-ropes, pulling their two boats toward the open water beyond Etah.

Running to the top of Observatory Island, I first discovered the grave of Schubert and Baker—a mass of rocks filling a natural crevice. How well I remembered reading, years ago in the appendix of Doctor Kane's book, "On the highest point of the island . . . is a deeply chiseled arrow-mark filled with lead." I looked down at my feet and found myself almost standing on the arrow! In the middle of the arrow was a deeply chiseled hole. Consulting the narrative, I find: "Near this [the grave] a hole was worked into the rock and a paper inclosed in glass, sealed in with melted lead." Lead, paper, and glass were missing. Possibly they had been taken by Bryant, of the Charles Francis Hall Expedition, who, when in winter quarters at Polaris Beach near Life Boat Cove in 1872–73, visited Rensselaer Harbor.

Everything was as described by Kane, even the "enlarged crack five feet due west of above arrow." In memory of America's first Arctic explorer, I inserted my ice lance in the hole of the "deeply chiseled arrow-mark," and to the top of it fastened the American flag intrusted to my care by the Kane Masonic Lodge of New York City. Sixty years had gone by since these cliffs, whitened shores, and islets had looked upon the Stars and Stripes. Sitting there on the summit of Fern Rock on

the sunlit day, I visualized that 20th of May, 1855. There only a few yards away lay the dismantled brig solidly embedded in the harbor ice; fluttering from the topmast-head, the red, white, and blue; standing upon the deck ready for the long march to the south, Doctor Kane and his sixteen men, scurvy riddled, but taking this last and only chance for their lives.

Our last farewell to the brig was made with more solemnity. The entire ship's company was collected in our dismantled winter chamber to take part in the ceremonial. It was Sunday. Our moss walls had been torn down and the wood that supported them burned. Our beds were off at the boats. The galley was unfurnished and cold. Everything about the little den of refuge was desolate.

We read prayers and a chapter of the Bible; and then, all standing silently round, I took Sir John Franklin's portrait from its frame and cased it in an India-rubber scroll. . . . I then addressed the party; I did not affect to disguise the difficulties that were before us; but I assured them that they could all be overcome by energy and subordination to command, and that the thirteen hundred miles of ice and water that lay between us and North Greenland could be traversed with safety for most of us and hope for all. . . .

We then went upon deck; the flags were hoisted and hauled down again, and our party walked once or twice around the brig, looking at her timbers and exchanging comments upon the scars which reminded them of every stage of her dismantling. Our figurehead—the fair Augusta, the little blue-eyed girl with pink cheeks who had lost her breast by an iceberg and her nose by a nip off Bedevilled Beach—was taken from our bows and placed aboard the *Hope*. "She is, at any rate, wood," said the men when I hesitated about giving them the additional burden, "and if we cannot carry her far we can burn her." . . .

No one thought of the mockery of cheers; we had no festival liquor to mislead our perception of the real state of things.

It may be of interest to know that "the fair Augusta, the little girl with pink cheeks," was not used for wood, but was jealously guarded and cared for throughout that long retreat across the ice-infested waters of Mel-

WITH THE FEEL OF THE WARM SUN ON HIS BODY HE GURGLES WITH DELIGHT

THE END OF THE DAY

ville Bay and is now at rest, after her adventures, in the trophy room of the Kane Masonic Lodge of New York City.

I looked long, photographed, and familiarized myself with every detail of that historic spot. The two towering portals at the entrance, the stratified cliffs in black and white, the terraces receding east to the Greenland ice-cap, the river mouth leading to the sinuous valley, the ice-girded rocky shores—all are stamped indelibly upon my memory.

Reluctantly we aroused our sleeping dogs, turned the bows of our sledges toward Sylvia Headland, snapped our whips, and wended our way southward. Looking back, I could imagine the harbor, awakened from its long sleep and rubbing its eyes, to be watching us until we turned from view; and then alone to settle down again into the quietness and deathlike stillness of the Great White North.

On June 4th we were back again at Borup Lodge, busily engaged in developing negatives, skinning birds, blowing eggs, and attending to the thousand and one things which are always in waiting.

Tanquary, a cripple and suffering exceedingly with the unhealed stubs of his frozen toes, pluckily assisted in whatever way possible. Jot constructed a kayak for him so that he could keep in good health by exercise.

Hunt, strong physically and fond of the water, was up and away to the hills or the islands every day, adding materially to our ornithological collection.

Allen, ever ready to do what I requested, had been sent in company with Ak-pood-a-shah-o 120 miles down the coast to the great bird-rookery at Saunders Island

for moving pictures. Much of the 12,000 feet of film brought back by the expedition is the result of his patience, energy, and skill.

On June 16th, Ekblaw and his supporting party arrived from the north. He had finished his thousand-mile trip in excellent health and looked tough and as brown as a berry. He had covered the 280 miles from Fort Conger in nine marches, with his dogs apparently in good condition, relinquishing his plans for botanical work in the vicinity of Rensselaer Harbor.

Allen and Ak-pood-a-shah-o came driving down the fiord on their return from the south on the 23d. I had worried considerably over Jerome's propensity for climbing and getting on top of things, and as they approached I closely scanned the sledge and everything on it with my field-glass, to see if everything seemed all right. A pair of crutches hanging from the upstanders brought forth the exclamation, "Jerome has broken his leg!" But the crutches proved to be only snow-shoes.

Bubbling over with enthusiasm over his wonderful trip and varied and exciting experiences, he had much to tell us. The trip over the glacier had been interesting, the rush down exciting. There were happy Eskimos at all the villages; fifty live narwhal in a lead only a few yards distant!

At one village he was suddenly discovered in his photographic changing-bag made of two heavy blankets which enveloped him completely. One very corpulent, temperamentally excitable Eskimo lady threw up both arms, let out a shriek, and fled incontinently to the hills in her endeavor to escape from this misshapen monster!

An Eskimo boy had tried to shoot a man. It appeared that the boy was insulted upon being told that

FLIGHT OF DOVEKIES

The air fairly vibrates with the whirring of wings of this bird, the most important in the life of the Smith Sound native.

he was not a man. To prove his manhood he decided to shoot some one; therefore he selected as his victim the insulter's brother! His aim was as erratic as his temperament. They both still live.

By the last of June little auks (*Alle alle*), black guillemots (*Cepphus mandti*), eider ducks (*Somateria molissima borealis*), the brant (*Branta bernicla glaucogastra*), the long-tailed duck (*Harelda hyemalis*), the snow-bunting (*Plectrophenax nivalis nivalis*), the wheat-ear (*Saxicola œnanthe leucorhoa*), and the burgomaster gull (*Larus hyperboreus*) were all laying their eggs. Deep rivers were flowing through the valleys; water was tumbling from the cliffs; salmon trout were passing to and from Alida Lake; the rapidly melting harbor ice lay glittering in the warm ever-revolving sun. Another long, delightful Arctic summer was here with its manifold opportunities for work, and work with a distinct pleasure. Always the day was too short and the period of sleep too early. So much to do and so little time in which to do it!

What fun high up on the cliffs, crawling and creeping on the narrow ledges, often with body pressed tightly against the face of the rock, hunting for the eggs of the white gyrfalcon, the raven, and the big burgomaster gull! And what a swish of diving white bodies and extended wings as one approached nest and eggs and young!

Impatient at the slow wearing away of the edge of the sea ice now extending far beyond the outer islands, we launched our sail-dory on July 6th in an open pool beyond Sunrise Point and sailed away toward the shores of Littleton Island on our annual egg-collecting picnic. To our surprise, because of a recent snow-storm we

found very few eggs in the nests, and got only fifteen hundred.

On the 8th Jot and I awoke in our little tent in Cache Cove to find it blowing, raining, and snowing. Here undoubtedly was the site of the Beebe cache of 1882 and of the relief cache left by Seabury in 1883 for the ill-fated Greely party. On the southern side of the island, while searching for eggs of the sea-pigeon, I was delighted to discover the remains of the coal cache left by Lieutenant Lockwood of the Lady Franklin Bay Expedition of 1881 when on its way to headquarters in the far North. Here Lieutenant Greely had instructed that records should be left, one in the top of a coal-pile and one under its inner edge, for the guidance of the relief-ships, should they fail to reach him in 1882 and 1883. On the southwest corner of the island were the remains of the cairn of Doctor Kane, the cairn of the British Expedition of 1875, and the cairn of Sir Allen Young where mail was left by him for Sir George Nares in 1876.

There were many names carved on the surface of the rock. We could see plainly "Otto Sverdrup," captain of the *Fram;* also in big, bold letters "*Erik,* 1875," revealing the fact that the ship which had brought us hither was well along in years, since she had visited this spot forty years before in the character of a Dundee whaler.

On McGary's Rock, a favorite breeding-place of ducks and gulls, we found two hundred eggs, and added them to our stores for the following winter. On the morning of the 10th, like Shackleton's penguins, we found ourselves buried deep under the snow. That such an amount could fall within a few hours seemed incredible. Jot,

from his hole beneath the jib of our boat, called that he could not possibly get out. Ak-pood-a-shah-o, our Eskimo, was summoned to his aid and affected his release, Jot declaring as soon as he reached the open that the snowflakes were as large as postal cards. We covered our tanalite tent, altogether unsuited for wet snow, with the remains of an old miner's tent. The thickened walls gave us adequate protection against this very severe midsummer storm. Once more we were comfortable, with the pot full of eider duck and the frying-pan sizzling with bacon and delicious eider-duck eggs.

To our astonishment, the storm continued on the 11th and 12th, the weather being boisterous, with heavy squalls and falling snow. The Eskimos declared that such a prolonged storm at this time of the year was unprecedented. They had never experienced nor had they ever heard of such a storm before. All the nests were buried, and the birds were flying disconsolately up and down and over the length of the island, searching for a bit of ground and a future home. To add to our troubles, during the night Torngak, the evil spirit of the North, attempted to rob us of a part of the ice-foot and our two boats. Fortunately, the precaution which I had taken of leading a long rope to the solid rocks beyond the ice-foot saved them from destruction. "Look for the best, but be prepared for the worst." This should never be forgotten in Arctic work.

On the morning of the 13th there were signs of clearing, bearing out the old sailor's belief that the weather is influenced by the new moon. Three narwhal playing but a few yards away brought us out of our tent with a rush, but an attempt to harpoon them was unsuccessful.

On the afternoon of the 13th, as we proceeded up the coast in our kayaks toward Anoritok, the whole sea was a molten bed of silver as calm and placid as a mountain pool. A beautiful glow over the heights of Ellesmere Land, with here and there a golden-lit peak and a deep fiord bathed in sunshine, lent to the whole scene the spirit of enchantment. It was on such days that one got homesick, and strange to say, not for home and friends; one regretted the near approach of our time of departure from the North Country, a separation that might be for all time.

At Anoritok three large narwhal and a happy group of Eskimos were congregated at the edge of the ice. Their raw narwhal-skin was a delicacy, yet it was quickly laid aside for the dozens of golden nuggets which we gave them from the nests of the eider duck. It was good to see the Eskimos again, to hear them laugh, and to hear them tell their stories.

On the 18th it blew great guns and rained atrociously. Happily the Eskimo tupik is well built and of ideal shape to stand the onslaughts of the wind from the big hills; with its covering of sealskin firmly braced within by its many poles and held without by its ring of heavy rocks, it stands almost as a part of Mother Earth, strong and resisting to the end.

Within a few feet of our tent sat the petrified figure of a woman huddled in skins, looking out over Smith Sound covered with its field of ice, and patiently awaiting the return of her adopted son, a small polar bear which had wandered off into the unknown many years ag and had failed to return. A strange, pathetic figure and one which enters largely into the tales and traditions of the Smith Sound tribe. The Eskimos have not for-

gotten her great love for raw meat, which once the bear so faithfully brought to her on his return from his daily hunt, and so the passing hunters often apply to the mouth of the disconsolate mother bits of fat for her sustenance. Grease spots can plainly be seen about her face and on her breast. This locality I regard as one of the most interesting places ethnologically in the far North; with its many old igloos it bears every evidence of having been inhabited for centuries by a very old people. Upon the ground and about the igloos is a heterogeneous assortment of old harpoons, killing-irons, and much household and hunting equipment.

But there was much to be done at Etah. Hundreds of boxes were to be packed in preparation for the coming of the ship; thousands of pounds of meat—walrus, narwhal, and seal—must be secured for the coming winter. These two problems confronted us for three years—preparations for going home and the uncertainty of going, thus necessitating the obtaining of supplies for the coming winter. Boxes were packed for transportation, and at the same time eggs were cached, food was conserved, the hunt carried on, and much put away for the dark winter months.

When in camp on Sunrise Point, on the last day of July, with one Eskimo, two women with nursing babies, and one little girl, Ak-pood-a-shah-o harpooned a big bull walrus. We yelled for the women to pull out the sailing-dory. How they managed to drag this twenty-one-foot boat for some forty feet, ship the unwieldy rudder, and row off to us, a mile away, I do not know. They were anxious to be in at the killing, and they got all they wanted.

I have seen many walrus die, but never one so hard. Wounded again and again by the killing-iron and shot at least six times, he persisted in living. I understand now why the explorer of old declared that to shoot a walrus was impossible. Finally, the wounded walrus lay on his back on the surface of the water, placed both front flippers up over his head, and deliberately covered his eyes. The act, though accidental, seemed pathetically human. If I could have given him back his life, I would have gladly done so.

The next day Ak-pood-a-shah-o harpooned a cow with young. The herd remained with her, leading us in the dory far toward the south. We succeeded in grasping the drag after some hard pulling. To this we fastened a long line which could be released quickly if the walrus should pass beneath a berg. Twice we fastened this line to a floe-berg to retard the progress. It was a strange sight: a floe harnessed to a walrus accompanied by six others; and on the floe a white man with an Eskimo very much excited, the former armed with a harpoon, the latter with a rifle; and, towed by the floe, a dory containing two women with babies on their backs and a small girl. The babies were yelling, the girl was wild-eyed, and the two women were vigorously pounding the rail, one with a dipper and the other with an oar, to prevent the walrus from attacking them. In attempting to shoot the mother the young walrus was killed. The mother at once turned, gave the battle-cry, and charged, followed by all the others. For a moment the situation seemed serious, but was quickly relieved by the shooting of the mother and two others.

The wind was now increasing and the tide ebbing; quick work was demanded of us all. Quickly rigging

an Eskimo purchase by chipping a hole in the ice and reeving in a rope of rawhide, four of us pulled the large walrus, which weighed at least 1,000 pounds, up out of the water and onto the surface of the ice. While Ak-pood-a-shah-o was engaged in cutting up the large walrus, the two women dissected the small one with two pocket-knives, the babies peeping over their shoulders, as much interested in the job as their mothers. One's education begins at an early age in that country.

Loaded to the rail with bloody red meat, we hoisted sail and squared away for home, landing at our camp on Sunrise Point. In the evening a narwhal was captured measuring thirteen feet ten inches in length. A baby narwhal, one foot in length, found in the uterus, was of much interest to me and to the Eskimos.

The summer activities may be summed up by the following quotation from my field journal:

August 7th, Saturday, Pandora Harbor.—We arrived here at five o'clock, having left Etah last evening. Jot and I have with us two Eskimos, Ak-pood-a-shah-o and Ah-now-ka. Taking every advantage of the good weather, we headed straight for Cape Alexander in our twenty-one-foot sailing-dory. A failure of wind, however, compelled us to land here for the night.

When Ak-pood-a-shah-o was engaged in stalking a seal for breakfast a search was made along shore for old igloos, two of which were found, one the largest I have ever seen.

Climbing to the summit of Cape Kenrick, which was beautifully molded many centuries ago by glaciers spreading outward from the Greenland ice-cap over the headlands and dropping into the sea, a long and diligent search was made for a possible record and cairn left by the officers or crew of the *Pandora*, which ship anchored here for a few days in the summer of 1876. At length a large, substantial cairn was discovered. Stone by stone it was pulled apart without disclosing the least trace of a record.

Two or three other mounds of rocks led me to a closer examination. To my delight, they were the best constructed stone fox-traps I have ever seen. At least ten could be counted from one

spot. Judging from the lichen-covered rocks and the general appearance and shape of the old igloos upon the shore, the inhabitants of which were undoubtedly the builders, I should say these traps are at least seventy-five or a hundred years old.

Ak-pood-a-shah-o tells me that some years ago he had no bullets; consequently, in shooting a bearded seal he used a large nail which passed completely through the skull, killing him instantly.

August 8th, Sunday, Retreat Harbor.—Into this little bight in the land came, sixty-one years ago, the retreat party from the brig *Advance,* wet to the skin, cold, and discouraged, following their rounding of Cape Alexander, the Cape Horn of the North.

August 9th, Monday.—To have clear weather is certainly a novelty after two months of wind, rain, and snow. The Eskimos say that the great war in the south where men are killing each other every day is the cause of the bad weather.

Two Arctic hare can be seen on the hill back of our tent. Two white whales have just gone to the soth'ard. Game everywhere.

August 10th, Tuesday, Sulwuddy.—Two more walrus killed to-day. A rough sea prevented use of kayak and compelled us to use the dory after stripping her of everything unessential. There has been an endless stream of walrus up the coast throughout the day. Two of these were harpooned and shot. The beach is so covered with drift ice and the sea so heavy that a landing can only be effected with difficulty.

Three skulls found here will make a good addition to our ethnological collection. One grave is so recent that I will not disturb it. Out of respect for the memory of old Ik-qua, the first Eskimo to ever come to Peary at Red Cliff, one should let him rest in peace with all his treasures, consisting of two pictures cut from a newspaper, one blue metal cup, four Eskimo drills, one wooden tube, one small glass bottle, and an old rusty gun. How many, many things thrown into the ash-barrel at home would make these people happy.

We are keeping a constant watch on the southern horizon for signs of smoke, indication of the ship from home. As far as I am concerned, it makes very little difference. Three of the boys at least would be terribly disappointed if she did not arrive. For their sake I hope that she does.

August 11th, Wednesday.—Two more big walrus to-day. There were so many in front of the glacier that for some time we did not dare to attack them. On the way down one followed us underwater and struck at the rudder with his tusks, causing Ah-now-ka, who was steering, to hop around and yell like a maniac. Some distance beyond the herd were two sound asleep, standing upright in the

water, with head and tusks well back and out, a position which I had never seen before. The sound of our oars aroused them.

At length we steered boldly into the herd, picking out a large bull with a Winchester .33 special. A stream of blood followed. Previous to this the herd, consisting of at least fifty, looked threateningly at the boat several times. With rifles ready now we rowed into them, following the blood. Jot stood ready with a harpoon and, when directly over the wounded animal, threw it. It failed to penetrate. As he described it: "God! it bounded back like a pop-gun! I had to dodge to get clear of it." The walrus disappeared, headed offshore. Knowing that he was mortally wounded, we followed and found him lying upon the surface of the water, face down. Creeping up cautiously, Ak-pood-a-shah-o hurled his harpoon into the round black mass of flesh. There was not even a tremor in his body. He was stone dead. An examination revealed a hole completely through his skull.

A male eider flew up to our tent to-day and died. They are coming our way! We may tame a few before we leave.

August 12th, Thursday.—Thick fog all day, but moderate. Shall cut up walrus this evening.

August 13th, Friday.—During the night we have killed four seals and two oog-jooks. Ah-now-ka harpooned one live seal from his kayak, the first, I think, which he has ever killed in this way. Jot shot a bearded seal in front of our tent, which sank, but came to the surface in about five hours.

Photographed the brick-red stream bursting from the side of the big glacier to the south.

Midnight, PETERAVIK.—It is so magnificent here that I am glad we came down, being able to see far to the east, even to the end of Cape Parry. On the way, Ak-pood-a-shah-o killed a seal and three burgomasters. One Eskimo skull near our tent adds to our collection. Am surprised to find a number of old igloos all along this coast, igloos which have not been occupied for centuries.

Above our tent a pair of white gyrfalcons and a pair of ravens are nesting.

August 14th, Saturday.—Male eider ducks can scarcely be recognized at this season of the year, due to the fact that it is the molting season and all wing feathers are gone completely.

Sea-pigeons, or black guillemots, are breeding here in the crevices of the cliff up to a height of at least eight hundred feet.

August 15th, Sunday, SULWUDDY.—We are back here again on the flood tide after a rather exciting trip by the men in kayaks, a heavy swell making it rather dangerous for such small skin boats.

Ah-now-ka and I have had a good talk to-night. He tells me that a long time ago Ak-pood-a-shah-o was an Angekok. He gained this reputation by prophesying the arrival of a ship the day before. He has lost that power now, consequently his fame. There is only one prophet in the tribe now, Tau-chee-ah. His reputation is based upon the power of naming, unseen, whatever object may be touched. "Years ago," continued Ah-now-ka, "a woman ran away from her husband and from every one. She went up that glacier over there. She became a 'kevig-tok,' what you were asking us about yesterday. She never came back. She hung herself by her hood on a point of rock. She choked. Another woman, Ah-dah-ned-doo, ran away for the same reason—her husband was cross and beat her. She drove up the Cape Alexander Glacier. A few days later the dogs returned, but no one has ever seen her. Some say she was taken up into the sky and has gone far away."

August 16–17th, Monday and Tuesday.—We left Hayes Harbor at four o'clock yesterday afternoon, working along toward Sutherland Island, where we stopped for two hours and shot a few eider ducks. Getting under way, we came around the cape with a strong, fair wind, capsizing one kayak and with difficulty keeping them all right side up. We arrived at Etah at eleven o'clock, finding the boys anxious for news from the south. The Eskimos are beginning to arrive from Anoritok in anticipation of the ship. Others are coming as soon as they can get here.

Tank's kayak is done. He is thoroughly enjoying himself now on every calm day.

It was now August 18th, and we felt some apprehension as to the non-arrival of the relief-ship which the American Museum had agreed to send at the end of two years and which I had requested by the mail sledged south to Upernavik by Tanquary. My men, longing for the time of departure, had watched the southern horizon from early morning until late at night. Their interests were in the homeland, and rightly so. Two years is a long, long time in the Arctic regions unless a man is enthusiastic over that strangely desolate but peculiarly attractive country. Religiously and faithfully the days on our calendar had been heav-

ily crossed, a shiny black square obliterating each completely, with a fervent "Thank God!"

"Work" was now the word. To maintain our health during the dark, blustering months to come, meat must be secured—fresh meat—the great and efficient preventive of that formerly dreaded disease, scurvy, fatal to hundreds of Arctic men and thwarting the well-laid plans of many a commander. It is an insidious malady and but little understood up to the last few years; it is not caused by subsisting on salt meats nor by not varying the diet with vegetables, fruits, acids, and the like, nor by the lack of exercise and uncleanliness in habits; it is chiefly due to a lack of the so-called vitamines. In plain words, a certain proportion of one's food must consist of something fresh.

"I lay very ill for a month and thought I would die. One day the Lapp saw a seal and he ran, carrying a pail with him, and shot it and caught the blood in the pail. I drank that and immediately began to revive. I shall now get well," relates one of the survivors of a party of four found in Spitzbergen.

The deep-water sailor of years ago ate largely of so-called "salt horse"; scurvy was the result. The vitamines were lacking. Lime-juice was considered by the medical profession as a sure preventive; consequently, laws were enacted compelling whaling-ships to issue as a part of the daily ration this anti-scorbutic, hence the term "lime-juicer" as applied to this type of craft. Some years ago, seventeen Arctic men were found dead among an abundance of food, the last survivor in a sitting posture, dressed in furs, holding in his mittened hands a junk of salt pork.

On the British Expedition of 1875–76, the men daily

filed aft and, in the presence of their officers, drank their stipulated amount of lime-juice; practically every man was afflicted with scurvy within less than a year. It is of interest to note that fresh meat was issued only twice in three weeks. According to Nares, even Nellie, Markham's dog, and both the cats plainly showed scorbutic symptoms.

A very early account of scurvy by Pigafetta, the historian of Magellan, is of interest:

> Our greatest misfortune was that we were attacked by a sort of malady which caused the gums to swell so that they rise above the teeth in the upper and lower jaws alike, and those who are attacked by it can take no nourishment. Nineteen of our men died of it, among whom were the Patagonian giant and a Brazilian whom we had taken on board. Besides the dead we had twenty-five or twenty-six sailors who had pains in their legs and other parts of their body, but they recovered.

All on board of Bering's ship had the scurvy. She drifted about without sail or helmsmen, finally entering a cove of Bering Island, where nearly all died either on board ship or after landing.

> Huddled on deck, one half that hardy crew
> Lie shrunk and withered in the biting sky,
> With filmy stare and lips of livid hue,
> And sapless limbs that stiffen as they lie;
> While the dire pest scurge of the frozen zone
> Rots through the vein and gnaws the knotted bone.

Although our relief-ship might possibly reach Etah within the next ten days, the men, now thoroughly alarmed, decided to aid me in every possible way in the execution of plans formulated months before against a non-arrival by September 1st. On the 20th Jot,

Allen, Green, and Hunt left in our twenty-one-foot dory for the hunting-grounds below Cape Alexander, followed on the 21st by Ka-ko-tchee-a, Ah-now-ka, E-say-oo, in kayaks, and myself in the twelve-foot punt. Ekblaw and Tanquary remained at Borup Lodge, the former in charge of meteorological work during our absence.

At Retreat Cove, fifteen miles south, we overtook the boys, sound asleep in camp. We carefully removed the sleeping-bags belonging to my Eskimos from the dunnage in the boat, and proceeded on to Sulwuddy, our objective point, eight miles below.

The boys joined us at noon of the 22d.

Walrus are generally very numerous in this locality. Many were passing along the shore, and large herds were feeding in the shallow water upon their staple food, bivalved molluscs, the *Mya truncata* and the *Saxicava rugosa*, rooted out of the sand and mud with their long ivory tusks. As a result, when the walrus are killed they often furnish the Eskimos with a nice fresh mess of shelled clams readily obtained from the stomach and eaten raw. Other foods of the walrus are sandworms, starfishes, shrimps, and even seals, as shown by meat and strips of skin found in the stomach.

Known as the sea-horse, or morse, a hundred years ago, and of prodigious size and in incredible numbers, the walrus figure largely in Arctic history, being greatly prized for the value of the ivory tusks and the tremendously strong hide. The Greenland tithes of more than 600 years ago were paid in "ox-hides, sealskins, and walrus ivory."

"They paid their tribute to the Crusades in the shape of walrus tusks, delivered at Bergen in 1327, and their

weight is noted on a receipt which is still in existence."—(Rink.)

The old Muscovy Company fitted out many a vessel for Cherie Island, nearly midway between Spitzbergen and Norway. Here as high as 1,000 walrus were captured by the crew of a single vessel in one hour, some of them fourteen feet in length and weighing 3,000 pounds. Such a slaughter would be impossible in the water, and, therefore, they must have been discovered sunning themselves and asleep upon the land, a well-known custom of these animals centuries ago. One of the earlier expeditions penned up 500 alive and kept them prisoners for several days. Our early writers reported them in large numbers upon the islands of the Gulf of St. Lawrence. I saw a large herd upon the land in 1908, lying upon the northern shore of Eider Duck Island.

There is evidence to show that walrus were at one time, probably during the glacial period, numerous along our Atlantic coast as far south as Virginia. They were seen in the Gulf of St. Lawrence as late as 1839. To-day only a few are seen as far south as Okak on the Labrador.

An amusing account by DeVeer, an early writer of northern voyages, is highly interesting:

> The sea-horse is a wonderful strong monster of the sea, much larger than an ox, which keeps continually in the seas, having a skin like a sea calf or seal, with very short hayre, mouthed like a lion; and many times they lie upon the ice; they are hardly killed unless you strike them just upon the forehead; it hath four feete but no eares, and commonly it hath young, one at a time. And when the fishermen chance to finde them upon a flake of ice with their young ones, shee casteth her young ones before her into the water, and then takes them in her arms, and so plungeth up and down with them;

and when she will revenge herself upon the boates or make resistance against them, then she casts her young from her againe, and with all her force goeth toward the boate (whereby our men were once in no small danger, for that the sea-horse had almost stricken her teeth into the sterne of their boate) thinking to overthrow it, but by means of the great cry which the men made, she was afraide, and swomme away againe and took her young ones againe in her arms. They have two teeth sticking out of their mouthes, on each side one, each being about halfe an ell long, and are esteemed to be as good as any ivarie or elephant's teeth.

Their belligerent qualities, as here described, have not deteriorated through the centuries. They are, as I have said, pre-eminently the fighters of the North. No white man, however strong, should intrust himself to a combat with such a monster in a twenty-inch wide, nine-inch deep, paper-thin Eskimo kayak; but man in this, as in other things, often rashly and confidently attempts the seemingly impossible. My failure on two former occasions under perfect conditions but seemed to whet my appetite for success. In front of our tent at Sulwuddy a large herd was feeding, rising to the surface to breathe about every nine minutes. Hunt, E-say-oo, and myself, all in kayaks some twenty yards away, watched them quietly, studying their actions and noting the comparative number of bulls and cows. Two or three big black heads with glistening white tusks demanded peremptorily that the greatest caution should be exercised in dealing with their families.

Noting that one remained about ten yards apart and frequently returned to the same position to breathe, I placed my kayak so that upon coming to the surface he would be headed away from me. He soon arose, breathing heavily, and in a perfect position. I dug the paddle deep into the water and jumped the kayak ahead

at full speed—so rapidly, in fact, that I overshot my mark and found myself alongside of the walrus before I could properly grasp the harpoon. So near was the round, dark-gray body that I could place my hand upon it. At the moment he was lying in the water, face down. Immediate decision and quick action were absolutely necessary. I grabbed the harpoon and jabbed it deep down through the blubber and flesh, into the chest walls. His whole body jumped convulsively. With an angry roar he whipped his head around beneath my arm and stood upright in the water, glaring me in the face.

For an instant it appeared that that thoroughly infuriated mass was going to act, and act in my direction. It is needless to say that I lost no time in getting away, feeling every second that I might get a jab in the back. With a mighty splash he disappeared, followed by the rapid uncoiling of the rawhide line on the top of my kayak and the splash of the sealskin float as it struck the water. Hunt, in the twelve-foot flattie, succeeded in overtaking the float and in fastening it to the bow of his boat, and then began blazing away with a Winchester .33 special. Ten shots in all were expended, plowing furrows through the top of its head and along the sides of its body, but leaving the walrus very much alive. With the help of E-say-oo, the animal was finally killed and towed to the beach, to be cut up and cached beneath the rocks.

I learned on the 23d that Green and Allen were so anxious to reach the United States that they were willing to risk a trip across Melville Bay in our power-boat. I immediately volunteered to return home, launch the boat, and go with them as far as Umanak, where Freuchen's launch could possibly be engaged for the trip

to Upernavik. After considering it thoroughly for a few hours, they gave up the plan, because of the lateness of the season. We secured two or three tons of meat during the time we camped here; the boys working hard in cutting up the walrus and in placing them under the rocks for our use the following winter.

On the 26th Jot, Ah-now-ka, Ka-ko-tchee-a, and I moved north to hunt about Retreat Cove and Cape Alexander, thinking that if the party were divided, twice as much meat could be secured. A few days later we rashly decided to pitch our tent on the extreme end of Cape Alexander, one of the pillars of Hercules and the Cape Horn of the North. Standing there at the entrance to Smith Sound, beaten upon by the rushing winds from the Greenland ice-cap, the storms from the south, and the violent winds from the north, bridging out into ice-swirling, ice-infested waters, it seems like some living monster, striking in its savage personality. My wild wish to camp upon this wildest-looking cape in the North was at last gratified.

The location of our tent only a few feet above the water's edge must have amused and tempted the evil spirits of that section. Water running through the tent drove us out of bed the first night, the result of a heavy sea from the south'ard. Pig-headed and obstinate, I refused to move our camp to higher ground. The next day we awoke with the same result. It was getting interesting.

To bed we went the third night, with a strong breeze from the north, with heavy sea. At one o'clock in the morning it was as still as death. Not a particle of wind, the air a mass of big, feathery snowflakes, portending what we mostly and justly feared—a storm from the

south. It was no longer interesting; it was serious. Jot started at once down the shore to pull the flattie to safety up beyond the high-water mark. I packed everything in the tent, in anticipation of trouble, and followed Jot, worrying considerably over his long absence. Upon our return, as we stood on the cliff above and obtained a first sight of our pitched tent, Jot yelled: "My God! Look at that! My rifle is gone!" A succession of leaps brought us to the flat, sloping shelf upon which our tent was pitched, now nearly buried by every sea.

Our equipment was too valuable to be lost. Quick work and dangerous work inside the tent surging back and forth with the strength of the waves netted everything, but in a soaked condition. We lost only a tin frying-pan, a tin cup, and a spoon which we could see upon the bottom in about ten feet of water when the storm cleared.

Wiser and sadder men and taking no more chances, we repitched our tent well up among the rocks, far out of reach of the dangerous waves. Our food was gone and none could be obtained on the end of the cape, but if the storm continued, Etah was only fifteen miles away over the glacier and this we could walk, reclaiming our boats on a later date. Clearing weather at night enabled us to pack and leave what Jot had called repeatedly a "hell of a place for a camp." The boys at Sulwuddy, taking advantage of the same lull in the storm, followed us home, having obtained one more walrus since we left them.

It was now September 1st and all hope of a relief-ship was given up for the year. Our situation was freely discussed and plans were made for the winter. Now

that we had a large amount of meat cached under the rocks, fuel was our next consideration. Our little twelve-foot punt was requisitioned as a coal-carrier. Loaded to the rail on each trip, she brought over from Provision Point in one day 6,427 pounds. The next day our twenty-one-foot sailing-dory transported a total of 10,360 pounds. With our 1,260 pounds already on the ground in bags, this gave us a grand total of more than 18,000 pounds. At sixty-five pounds a day, which we were using, this should last until May 1st of the following year.

By force of habit we still kept our eyes on the southern horizon over which ships of all shapes and sizes were continually coming and constantly reported. It is strange how a man sees what he wants to see. Jot and I were rounding Cape Alexander two weeks previous, and the boys declared our twenty-one-foot sail-boat to be the 500-ton steamship *Erik* from St. John's, an illusion which persisted for some minutes and was only reluctantly dispelled upon our reappearance some five miles from the house. Tanquary, hoping against hope, deferred further amputation of his two toes from day to day, preferring to have it done at home. He now consented to the removal of his two toes at the first joint by Doctor Hunt. He had suffered for six months, but had shown clear grit all the way through.

A sub-hunting station was planned for Nerky, forty-five miles below Etah. Here a good Eskimo igloo could be built and the meat secured during the fall cached for our use in sledging south during the winter months, thus obviating the rather difficult route with loaded sledges over the Crystal Palace Glacier inside Cape Alexander. As a preliminary step toward the estab-

lishment of this station, Green, with three Eskimos, left for the south on the 6th in our dory, loaded with oil and biscuit. He returned on the 8th after landing everything at Sulwuddy, where it could be easily reached with dog-teams from Nerky. He also brought us the good news of three more walrus killed near Retreat Cove.

Our Eskimos were now preparing for their annual caribou-hunt some forty miles north of Etah, in the rolling hills between the shore and the front of the Greenland ice-cap. The coast, bare of snow at this time of year, precluded all thoughts of a route in that direction. Consequently sledges and dogs are always transported to the head of Foulke Fiord and thence to the back of Brother John's Glacier, the beginning of the great white highway leading to the north and south and into the interior of Greenland. Hunt, one of our most enthusiastic hunters, early signified his wish to accompany the Eskimos on this interesting trip. He was now busy preparing and transporting his equipment by boat and land to the face of the glacier in Alida Lake.

On the 9th Jot and I were away for Nerky with our boat looking like a gipsy wagon, piled high with lumber for the roof of our sub-station, oil, and dog-biscuit, together with a heterogeneous mass consisting of two women, three children, two pups, skins, clothing, books, hunting equipment, stoves, drinking-water, and two dead gulls. Strung out behind us were three kayaks in tow, two the property of the husbands of the women who were to proceed with their dog-teams over the Greenland ice-cap, rejoining us at Nerky. Loaded as we were, there was not a little apprehension as to our

safe rounding of Cape Alexander with old Torngak watching every move from north or south.

I am convinced that the very devil himself lives at that place and never sleeps. Winter and summer it is the same. Very few Eskimos dare to go around in their kayaks even in moderate weather. Within a very few minutes a placid, innocent stretch of water is converted into a heaving, tumbling, dangerous sea. In addition to this menace, there are great herds of walrus always feeding there which are inclined to follow a boat, attracted, I think, by curiosity. Some weeks previous, when passing that point, an Eskimo following us in his kayak uttered a terrified yell. We turned quickly and rowed back as a herd of walrus could be seen gaining rapidly on him. Our speedy arrival turned the herd to one side, much to the Eskimo's peace of mind.

The devil, upon this occasion, doubtless out of respect for the ladies, kept quiet and permitted us to round in safety and proceed to Retreat Cove, where we made our first camp just after dark. Learning from Jot that a young walrus was here in cache, we soon had a portion of him out, cut up, and in the cooking-pot. "My! Isn't it good!" we exclaimed to one another as we sat in the darkness of the tent, chewing that delicious meat. To our surprise, upon awaking in the morning we found our hands and wrists literally red with blood. In the hasty preparations of the preceding evening, in our impatience, we had not even waited for the meat to warm through.

When passing Sulwuddy on our second day's trip, we saw a walrus standing up in the water with head thrown back, fast asleep. With tent pole poised and ready as

a harpoon, and that wide-open mouth as its objective, noiselessly we crept toward our quarry, the children whimpering with fright, and the women giggling hysterically. A clean miss! The look on the face of the astonished animal as he opened his eyes almost into ours was truly comical. He tore an immense hole in the water trying to get under it.

Herds of white whale with their dark-gray young passed and repassed our boat throughout the trip. It was interesting that they had not disappeared at this time of the year immediately after the departure of the little auks, as they are said to do by the Smith Sound Eskimos. It is the firm belief among these people that the white whales feed upon these little auks which they follow south in the fall. They are from fifteen to twenty feet long and of a creamy, yellowish white in color, and furnish about 9,400 pounds of blubber. "Singing canaries" they are called by the sailor of the North, because of a peculiar whistling note sometimes compared to the Tyrolian yodel, sometimes to a jew's-harp, and the music is often heard even in the cabin of a ship. The Smith Sound Eskimo can easily detect the difference between the whistle of the white whale and the whistle of the narwhal, which is a much lower tone. The white whales are extremely acute in hearing and can only be approached with the utmost caution.

When we saw a herd approaching directly in our path, we rested on the oars and remained perfectly motionless and noiseless. In spite of this precaution, they disappeared fifty yards in advance of our boat and reappeared a hundred yards in the rear. The raw skin of the white whale is considered a great delicacy in the

Smith Sound tribe, and the oil, equally with that of the narwhal, is the very purest and best for heating and lighting purposes.

A third day at the oars of the heavily loaded boat saw the finish of our forty-mile row. The green grass at Nerky was fairly dotted with the white bodies of twenty Arctic hare. Jot squatted on the shore and, resting his elbows on his knees, killed five before they decided that he was dangerous. The Eskimo girls looked over the old stone houses and generously offered us the largest and by far the best, standing well back from the shore. For days we threw out bones, decayed meat, old skins, and wet grass. Finally, despairing of ever digging down to something really clean, we decided to cover everything with white sand from the beach.

In the mean time, Al-ning-wa and Ah-ka-ting-wa had been digging and scraping in their respective and prospective homes. This house-cleaning in the North with a pointed stick would certainly interest our matrons here at home. Chloride of lime would help some, but a good strong smell scares away the devils, so the Eskimos say. I do not doubt it for an instant. It is fortunate that such an effective weapon is such a common possession.

Arklio and Oo-bloo-ya, the looked-for husbands, arrived with their dogs and sledges *via* the Greenland ice-cap on September 13th. We immediately made preparations for an expedition to the head of the bay after a boat-load of grass which should serve as a covering for our winter homes against the bitter temperatures which were sure to come within a few months. The Eskimo igloo, covered with sod, then with dry grass, skins, and, lastly, with that almost perfect insulator,

snow, can be made surprisingly comfortable and warm. The mast, boom, and sails of our boat were applied to the roof of our house with excellent results, giving us a tight roof and one which retained all the heat generated within.

The 14th was a beautiful day. The bay was fairly alive with the heads of seals. Unfortunately, a slight swell rendered accurate shooting from a kayak impossible. That six were secured under such conditions was the cause of congratulations. Shots were heard from across the bay in the evening, indicating the nearness of our hunting-ground to that of the Eskimos of Ig-loo-de-houny, some twelve miles to the southeast.

A tremendous surprise awaited us on the early morning of the 15th. The cry of "Fire!" or even of "Murder!" could never have startled us more than the awful yelling which issued from Arklio's tent. A few seconds convinced us that something was coming. "Putter . . . putter . . . putter," could then be faintly heard—a motor-boat! I could hardly believe my blinking eyes until the glad cry came from Jerome: "Doctor Hovey is here! The ship is at Umanak!"

The long-looked-for relief had come. My heart went into my boots; although I was barefooted at the time. Within a few minutes Doctor Hovey shouted: "How is it for going home?" This was my last wish. No, I couldn't and wouldn't go home, with so many plans for another year. But how happy I was for the men, many of whom had no real reasons for remaining! Ekblaw, Tanquary, Green, and Allen were already on board and ready for the start; Hunt, the day previous to Hovey's arrival, had departed with the Eskimos for the northern hunting-grounds.

The story was told in a few minutes. The three-masted auxiliary schooner, *George B. Cluett*, under the command of Captain Pickles, had been chartered by the American Museum of Natural History to proceed to Etah for our relief. Dr. E. O. Hovey was the official representative of the Museum. Absolutely unfitted for Arctic work, handicapped by a late start and several delays along the Greenland coast, the ship had essayed the crossing of ice-choked Melville Bay with a disabled engine and with not a single man aboard who had a knowledge of that uncertain stretch of water or that inhospitable northern coast.

Reaching Umanak (North Star Bay) after a long, tedious, and somewhat dangerous voyage, Doctor Hovey and Captain Comer, the ice pilot, decided that the ship should remain in that port while Doctor Hovey should proceed on to Etah, 100 miles to the north, in a large, stanch power-boat, the property of the Danish trading-station at Umanak. This was done with the help of Freuchen, in charge of the station, and his men. The party was now on its return to the *Cluett* with the intention of proceeding home at once.

In consideration of the fact that Doctor Hunt was still in the North and that all of our equipment and collections were at Etah, my desire to remain for another year was strengthened. Jot immediately signified his desire to remain with me. Within a few minutes good-bys were said and the boat sailed away to the south, leaving us with our letters from home and the latest news of the great world war which seemed so remote and unrelated to our primitive life here—existence in a canvas tent upon the shores of a Greenland fiord. We can never forget the oranges brought

to us by Doctor Hovey. We rolled them in our hands, smelled of them repeatedly, tossed them into the air, and then—gave most of them to the Eskimos. What a curiosity they were and how much they were enjoyed! What exclamations of surprise upon hearing that these yellow balls were picked from trees! Trees high above their heads! The creeping willow vine, possibly attaining the size of one-half inch in diameter, is the largest "tree" among these people.

It seemed strangely quiet after this slight touch with the homeland. The curtain had lifted but for a moment; but in that moment we had seen much—green fields and extensive forests, the horizon of a blue sea dotted not with icebergs, but with the sails of passing ships, great cities teeming with life, the familiar rooms and faces of our homes, loved ones who were anxiously awaiting our return. We folded up the letters and planned for the day's work.

X

THE WINTER OF 1915–16

WE were now in for at least another year in the Arctic, and our first task centered about supplies for the coming winter. And, strange as it may seem, our immediate work was gathering grass. Although it is not generally associated with the Arctic regions, grass is one of the most valuable products of the Northland, and, fortunately, for the comforts of the Eskimos, there is an abundance in the vicinity of every village. An excellent insulator against cold, it is highly prized for padding in the sealskin boot, for the large comfortable beds, and for the roofing of the winter rock houses. Unlike his brother in North America, the Smith Sound native lives for nine months in the year in an excavated clover-leaf-shaped room; the walls, floor, and ten-foot entrance are of stone. Formerly the roof, supported by the cantilever principle, was of slate rock. To-day we find it consisting generally of wood and skins; the former obtained from the white man in trade for skins and ivory.

Although the temperature upon the floor of such a house, due to the open, semicircular entrance from the rock-walled passage to the open air, may be, and often is, at zero, that upon the bed platform, eighteen to

twenty inches in height, is from 60° to 80° Fahrenheit. Naturally when the house is crowded much of the warmth is radiated heat from the bodies of the people. If you want it any warmer, bring in another Eskimo! Here the little children tumble and roll and laugh in the warm skins, unencumbered with any clothes whatever. The unembarrassed lady of the house herself sits sewing or chewing the sole of a boot, cross-legged, beside her soapstone lamp, clad only in a much-abbreviated pair of foxskin trousers; her body surprisingly white in spite of the fact that she has not washed it for the last forty years! Faces and hands, however, are regularly wiped with the fat-absorbing birdskins.

When I left North Greenland in 1909, I presented to In-ah-loo, a fat, good-natured dame, one inch of a Williams shaving-soap stick. Upon my return, four years later, with marked pride she dug from the bottom of a sealskin bag the same inch! She liked to smell of it!

To a white man the odor of an unwashed Eskimo is unmistakable and well pronounced. To an Eskimo the smell of a washed white man is just as pronounced, and probably just as disagreeable. It is simply the question of a choice of perfumes. Strange to say, after a few weeks' contact with these primitive children of the far North, that all-pervading and once offensive odor is indistinguishable; it has become commonplace, and ceases to notice. Or has the olfactory nerve, discouraged by such a constant load, given up in despair?

On the 16th Jot and the Eskimos, in our sailing-dory, rowed to the head of the fiord for a load of grass. This is never cut, but is pulled and broken close to the ground. Megishoo, oldest daughter of Oo-bloo-ya, stood on the

slope of a hill, grabbing out with both hands and pulling as if her life depended on it. She missed her hold, fell over backward, and, rolling the whole length of the slope, landed abruptly in a seated position on the sand beach, with bewilderment predominant in every feature of her young face.

During the next week we were busy hunting walrus and seal up and down the coast from Nerky to Sulwuddy, caching our meat under the rocks for use during the dark period. But I worried considerably over the fact that our house and all of our equipment and collections were left unprotected by the departure of the men. If any one quality can be attributed to an Eskimo, it is that of carelessness. Doctor Kane's *Advance* and Peary's Anniversary Lodge were both burned shortly after the departure of the men southward. If our house should burn, what then? An irreparable loss, and a death-blow to all future work!

Every day but accentuated my fears. The summer season had closed. The nights were dark. Fields of ice, lately broken from the inner bays in the far North, were strewn the length of the coast. New ice was forming. I looked at our somewhat battered twelve-foot, flat-bottomed punt, the pride of our fleet, and wondered if she could do the forty-eight miles. Whenever I thought of our house and food and clothing, I would walk to the beach and examine the punt; then some new phase of the daily work would divert my attention and the house and equipment would be forgotten; but not for long.

On the 23d (September) a drizzling rain fell all day. There was not a breath of wind; the dark, lead-colored sea was as smooth as a pond. Here was my oppor-

tunity. At four in the afternoon of the 24th the rain ceased and the clouds rolled away, revealing blue patches of sky—every promise of a good, starlit night. With a good-by to Jot and the Eskimos, who looked a bit astonished, I was off with only my sleeping-bag and a half-dozen crackers.

For rowing in the Arctic one should have bow-facing oars or an eye in the back of his head. Two collisions with bergs during the night, ending with head in the bottom of the boat and feet sticking up, were sound and convincing arguments that the structure of the human body might be improved upon.

At Peteravik a herd of walrus arose to the surface as the dark form of the boat passed over their supper-table. Not quite understanding the nature of the stranger, they followed slowly and critically for some distance.

Before I reached Sulwuddy it was dark. A few miles beyond I was startled by a tremendous beating of the water right under the bows of my boat. "Walrus! fish! whale! what in the world!" I exclaimed in succession. And then I could discern in the semi-darkness through the flying spray the hurrying, scurrying black forms of young eider ducks! They were not yet able to fly, but with the rapid beat of their strengthening wings they could skim the surface surprisingly well. Within a few weeks they would be off on their 2,000-mile journey to their winter home off the coasts of Maine and Massachusetts.

When nests are robbed repeatedly and the young are hatched in consequence late in August, the mothers often fly off to the south, leaving their young to struggle for an existence against cold and wind and ice. The

HEAD OF TWO-THOUSAND-POUND WALRUS

abandoned fledglings undoubtedly perish and are often found dead along the ice-foot and in the fresh-water ponds.

Cape Alexander, just half-way between the Arctic Circle and the Pole, was before me. It was never approached in a small boat without a certain apprehension, because of the extreme uncertainty of the weather conditions. Skies may be blue and waters on either side of the cape like a mirror, but at the end there is generally a devil's dance! Eskimos in view of the cape daily look to it for a prophecy of the day. Seated in a little skin boat, twenty inches wide and nine inches deep, wind is what the native fears; and this is foretold by a white cloud hanging low upon the summit—an unfailing sign. This cloud is undoubtedly due to the sudden condensation of the comparatively warm, moisture-laden air of this vicinity (the stretch of open water has a temperature of 29.2° F. above, both winter and summer) brought about by the downward rush of cold air from the Greenland ice-cap. "The cape has her white cap on to-day," was always an excellent reason for hugging the shore in the day's hunting.

In the dark no cap was visible. A slight chop at the very tip of the cape gave evidence that all was not well to the north. A few heavy squalls as I rounded cautioned me to follow the shore and not strike across for the Crystal Palace Cliffs, four miles away. Swiftly the little punt raced on into a dense fog with a rapidly increasing and following wind and sea. The faint dawn now disclosed a dark mass in the mist, which, to my disgust, proved to be the wave-washed face of the Crystal Palace Glacier, informing me that I was well off my course. Past experience, when sledging, with ever

changing and revolving winds in this bay, should have proven more profitable. A change of direction and an hour's hard pulling against the sea brought to view the rocks of the Crystal Palace Cliffs whitened with the surf. Beyond this point there was scarcely a breath of wind.

Foulke Fiord was frozen over and the land was white with new snow. With the flood tide the ice had risen, leaving a lane of water along the shore leading to the house, which I reached at a quarter to ten. To my surprise, upon stepping from the punt at the finish of this nearly eighteen-hour row, I was a bit unsteady on my legs, due perhaps to the fact that I had had no nourishment since leaving Nerky at four on the previous afternoon, except two ounces of crackers.

The house was safe, but how strangely quiet! And how cold and cheerless! There was a deathlike stillness in the rooms now vacated by the men, and evidence everywhere of their hurried departure. A crackling wood fire in our big Crawford cooking-stove removed the chill and the dampness; a few minutes with broom and hands removed all traces of disorder and untidiness. Borup Lodge was a home again, and would be for two years more.

Two days later I saw Hunt approaching the home on his return from the annual caribou-hunt. How I pitied him! He had left a charming wife and a beautiful little six-year-old daughter in the homeland; and Northern work had not been so attractive as he had hoped. I walked out to greet him and to learn of his success. E-took-a-shoo had killed twelve caribou, Ak-pood-a-shah-o two. The other men had gone on toward northern hunting-grounds. Just before we reached the door

I said, "Well, Hunt, the boys have gone." And, noting his bewildered look, I went on to explain: "Doctor Hovey has been here in a power-boat. The ship reached North Star Bay." No one could have taken this crushing blow more bravely than he did, a blow which cut him off from home and friends for one more year at least. Plans and promises to have him sledged by the December moon to South Greenland, where he could reach the United States by steamship *via* Copenhagen, were all speedily refused; he would stick it out to the end.

We now made preparations for the winter. A new heavy iron stovepipe replaced the old; holes were patched in our shed; double windows were put on; coal was weighed daily. Meteorological observations were taken as usual, with daily sea temperatures.

On October 5th the newly formed harbor ice was all blown out to sea by constant winds. But by the 15th it was again forming, and two days later it was strong enough to bear our weight. During the next ten days Hunt, at my request, secured a valuable set of soundings of Foulke Fiord (so far as I can learn, the only set), showing the depth to which the glacier of centuries ago chiseled and carved its bed out of solid rock as it flowed on majestically from the ice-cap to the sea, between what are now 1,000-foot cliffs rising abruptly from the water's edge.

Day by day the Eskimos were returning from the northern hunting-grounds with sledges loaded heavily with skins. They reported that the party which had settled in the spring at the head of Dallas Bay had but little meat and would probably soon return. Jot arrived from Nerky on the 28th by way of the ice-cap,

accompanied by Arklio and Oo-bloo-ya, as I had instructed.

On the 31st I was off for a 120-mile run to North Star Bay in search of food which Doctor Hovey promised to land in that vicinity. A merry party we were, consisting of eleven sledges and 100 dogs. Open water at Cape Kenrick compelled us to go south by the ice-cap route; and to gain it we descended the valley south of Port Foulke, marked by the striking-looking butte memorialized by Doctor Hayes as the "Sonntag Monument." Our camp on the summit that night was very picturesque—not a breath of air, a clear, star-studded sky, two illuminated tents, two blazing open fires, ten dog-teams sleeping at the edge of the dimly lighted circle; and, throwing out long shadows into the darkness as they tumbled and fell amid shrieks of laughter, the Eskimos old and young playing "blind man's buff." This was followed by cross tag, and then we retired to our bags for a hard day on the morrow.

A snowstorm confronted us the next day. How could we find our way with nothing to guide us? Impossible! Within an hour we were lost and almost doubling on our back trail, as was plainly evident from the wind, which at the start was well to the right and now was blowing behind us from the left. At length an old sledge track, cutting our course at a sharp angle, was discovered, and followed to rocky headlands projecting from the ice-cap and leading to the Clements Markham Glacier south of Cape Chalon (Peteravik). Now began a wild race down the back of the glacier to the sea. The whips snapping, the men yelling, the women calling to one another, the children crying, the sledges jumping, diving, and slewing—a veritable pandemonium!

Fearing lest my sledge should capsize, I was struggling with the upstanders to direct it, when a wild yell from E-took-a-shoo close behind us warned me of approaching danger. His sledge crashed into mine, and, both stopping suddenly, his dogs snapped the hitching-strap and tore off down the slope. Immediately came another warning cry as E-say-oo's blacks shot between us; and his sledge, on which were piled all of his worldly goods, was added to the wreck. Ah-nah-we, his wife, and ten-year-old Nup-sa, who were perched on top of the load, did not stop with their conveyance, but involuntarily continued on their way, the former landing upon her stomach among the dogs, and the latter upon his nose against E-took-a-shoo's load. The stream of blood and the yells which followed were both checked with considerable difficulty. At length the runaway dogs were whipped back up the hill, the sledges and harness were disentangled, and laughter replaced groans.

We spent two nights at Nerky to feed and strengthen our dogs with seal meat which we had cached there in the fall. Our next camp was made at Ig-loo-nark-suah, rather than attempt to crowd into the already well-filled igloos at Ig-loo-de-houny. Here, to my surprise, I heard one of the Eskimo boys humming the air of "Auld Lang Syne." He had learned it from our victrola!

On the morning of November 4th we deemed it imprudent to attempt the route to Kah-na over new ice now doubly treacherous because of a thin covering of recently fallen snow. The color of ice is constantly noted to determine its thickness. But at noon three more sledges arrived with the same destination in view. Encouraged by numbers, we now went on together, somewhat gingerly, across McCormick Bay to Cape

Cleveland over ice so thin that, upon passing, our sledge tracks were seen to soak water.

On the shore at our left Peary was landed twenty-four years before with a broken leg. He would not go home. He would do what he came to do. There he built his little home called *Red Cliff House*. He was the first to put absolute faith in these Northern natives, hitherto considered untrustworthy. He was the first to win their confidence. From this point he began that long march over the icy dome of Greenland to Independence Bay, a bold reconnaissance for his magnificent work of later years.

Little did I dream of the surprise awaiting me among the lights of the village of Kah-na, now just showing far down the shore. Oo-tah, of North Pole fame, came running out to meet me as I drove in. Bit by bit I gleaned the latest news. First, that all my supplies were at Ip-swee-shoo, which surprised and disappointed me, since Doctor Hovey had promised to land them at Umanak (North Star Bay). I reasoned that the ship had been driven out of North Star Bay by the ice, and had landed the provisions at Parker Snow Bay as she passed south. He next informed me that Green was at Kangerd-look-suah and was on his way back to Etah. He must have thought my hearing was entirely gone when I requested him to repeat this very slowly and distinctly three times. And then I was by no means convinced. I had imagined Green by this time at the Army and Navy Club in New York safely eating peach ice-cream and chocolate frosted cake, delicacies which he had talked about so many times on our first trip.

"And the men?" I inquired.

"Oh, they are all there," he replied.

It now began to look much as though the main expedition would relieve the relief expedition. But tomorrow I would meet Green and know everything.

All the igloos were crowded. Rather than squeeze in between two highly perfumed natives and awake covered with lice, I preferred to pitch my tent on the ice and sleep alone. There are no guest-chambers in the Northland. One room in a house; and that room mostly bed, and in that bed everybody sleeping—father, mother, all the children, and all the visitors. Naturally it is a commodious bed and deep in skins and grass. Each morning the lady of the household reaches in under the skins and pulls out handfuls of grass for the boots of her lord and master and of her children. By early spring the once soft mattress has disappeared piece by piece, and soft spots on this rocky couch are rather difficult to find.

Oo-tah called to pay his respects in the evening in company with his newly acquired South Greenland wife, ordered of Rasmussen. In giving this commission Oo-tah negligently failed to specify just what was wanted. His first look was not encouraging. A closer examination was discouraging. He didn't want her and he said so; nevertheless, he bravely received her for better or worse, without ring or promise or other ceremony. He feels better now. He realizes that he must have been mistaken as to her commercial value. Being a stranger in the tribe, she exchanges fairly well for the wives of his friends, and is even loaned for a month at a time without being missed. One man in speaking of his wife declared that she was nearly perfect. She had one fault only—she didn't like to be loaned!

In the evening of November 5th, Green arrived in

company with Freuchen, and reported the relief-ship, *George B. Cluett*, frozen in for the winter at Parker Snow Bay, about ninety miles by dog-team to the south. She was ill-prepared to spend a winter in the North; the crew were without warm clothes and had but little food.

Doctor Hovey had decided to retain on board the ship the provisions sent up to me by my good friend, Mr. M. J. Look, of Kingston, New York. A long letter from Doctor Hovey informed me fully of the situation, of his grave fears for the winter, of his plans to have the party sledged to South Greenland in company with the annual mail-teams leaving about January 1st, and of his great desire for as many skins as I could possibly gather. He requested that Doctor Hunt should be sent to the ship at once to attend to sickness on board. This news made it necessary for me to go back to Etah immediately, for we must now relieve the relief. However, we could not start back that day on account of a violent wind which drove us out of our slatting tent and into the shelter of an abandoned igloo.

An early start and propitious weather on the 8th enabled our dogs to cover thirty miles on the back trail to Nerky, where we rested on the 9th, preparatory for the forty-eight miles to Etah. From here Na-hate-e-lah-o was sent on to headquarters with instructions to Doctor Hunt to make preparations to proceed to the ship upon my arrival.

Open water off Clements Markham Glacier turned us back to Nerky on the 10th. This was but preliminary to a long, vexatious delay due to darkness and falling snow, both extremely dangerous when dealing with thin ice and leads. Poor Green had been suffering for some

days with a bad tooth. On the morning of the 17th he could stand it no longer, and begged me to start for Etah where he could place himself under the doctor's care. He will never forget that ride. With a tooth jumping and throbbing, the pain aggravated by every inrush of that extremely cold air, he pluckily drove his team over the Crystal Palace Glacier, a perfect smother of rushing snow and wind.

For a few hundred yards, as we rounded the Crystal Palace Cliffs, I had never encountered any weather like it, darkness and rough ice being added to the blinding, drifting snow. Not a man could face it. How the dogs did I do not know. A few minutes' trial at leading the caravan resulted in a frozen face and a dropping back to the rear, and the second adventurer had no better luck. When we reached Borup Lodge my face was so frost-bitten and I was so covered with snow that Jot did not know me. He and Hunt were astounded upon seeing Green and hearing of the detention of the ship far down the coast.

On the 22d, with three sledges piled high with skins and equipment, Hunt left for the ship at Parker Snow Bay. On the 25th, Thanksgiving Day, the remaining members of the Crocker Land Expedition, three in all, sat down to a glorious dinner consisting of roast caribou, mashed potato, turnips, cranberry sauce, cinnamon roll, mince pie, plum pudding, chocolate sauce, and what Jot called "shammy," half grape-juice and half whisky, and coffee. This menu is fairly good proof that we, in Etah, were not yet in need of relief.

On the 29th Green refused to travel without the aid of Eskimos, and requested me to obtain help from Nerky, if possible. This trip was replete with thrills from start

to finish, and nearly cost us our lives. As we reached Cape Kendrick we found the ice very thin, but went on, trusting to luck rather than upon our best judgment. In a few minutes my dogs began to shove their feet through the ice, one dropping in completely. Finally, my sledge broke through. Yelling to the dogs, I threw myself forward onto the bow, ready to grasp the traces if the sledge should go under. They immediately responded to the call, straining with every ounce that was in them, and succeeded in pulling the sledge out on to solid ice.

Now we were in a predicament; it was so dark that we could see but a few yards, and that few yards seemed all open water and thin ice, completely encircling the floe. E-took-a-shoo, after carefully probing for some time with his harpoon, finally located a narrow strip over which we urged the dogs on the run. The young ice bent like leather, but fortunately held. But when we reached the south side of the Crystal Palace Glacier, to our disappointment the sea ice was entirely gone. Plodding along an ice-foot through deep snow in the dark, falling into cracks, at times using all our strength to save our sledges from falling off into the sea ice—well, it was not work that would have appealed to the most ardent enthusiast of the Arctic. We arrived at Sulwuddy covered with sweat and suffering from thirst.

Our run the next day to Nerky was without incident until we reached the rough ice off the front of the Diebitsch Glacier. Here in the darkness and deep snow we wandered aimlessly for some time until the stars enabled us to direct our course for Cape Robertson. One day's rest at Nerky for our dogs, and back we

started on the forty-eight-mile trip to Etah. Darkness and open water both uttered a decisive "No!" to this plan before we had been gone two hours; then it began to snow, and continued to do so until the 8th, giving us an opportunity to try the northward trail once more. Leading off from the front of the Clements Markham Glacier was a narrow strip of black water, and on the other side were two dog-teams with their drivers curled up on their loads and sound asleep, waiting for the lead to freeze. Lashing two sledges together, the older men made a bridge over which the two boys brought their sledges and their dogs. Their report of the condition of the ice northward precluded any further attempt to advance for that day.

On the 13th we were off again, encountering at the same place the same lead, but twice as wide. Chafing considerably at the long delay, I told the Eskimos that we must go over the glacier. We found this covered with nearly two feet of soft snow through which we wallowed and waded without snow-shoes, fairly tumbling down the northern side, the sledges and dogs nearly buried. From here we wallowed and waded again for a mile, finally landing upon the hard ice-foot. What a relief it was to snap the whip and feel the jumping, racing sledge bounding into Peteravik!

Three o'clock of the next day found us rounding Cape Chalon and laboriously tracking through deep snow all the way to Sulwuddy. Here, after a consultation with the Eskimos, it was decided, because of the extremely heavy wind of the day before, that our chances for making Etah were excellent. For five miles the sea ice was perfect, cleared and swept by the wind.

About two miles below Retreat Cove open water com-

pelled us to take to the ice-foot. Here our troubles began. Huge snow-drifts on the hillside fell abruptly into the sea. It was more like mountain-climbing than sledging. We cut our way along these dangerous slopes with our hatchets, so hard and slippery that it was impossible to walk upright on them. Three times my sledge skidded down the slope and disappeared over the edge, being held only by the bow, the dogs dropping to their bellies and clinging to the hard snow with their toes. The first time I was foolhardy enough to hold on to the sledge and try to save it. When on the very brink I realized that I was gone and prepared myself for the splash into the water which I knew to be below. To my astonishment and satisfaction, the water only reached my waist, for it happened to be low tide, thus saving me from a complete bath. The sledge was with me, bottom up, with bows resting against the face of the ice. With the help of Ka-ko-tchee-a, I was soon out, beating the forming ice from my bearskin pants with the snow-beater and stripping off the wet boots to be replaced with a dry pair of Ak-pood-a-shah-o's. Within a half-hour the devil-bewitched sledge repeated this operation twice. Once it was saved by fat old Ah-took-sung-wa, the wife of Panikpa, who sat down on the traces and called lustily for help.

My sledge was now a mass of ice and my sleeping-bag full of salt water. I must go on. A low temperature on the surface of the glacier would have made it most uncomfortable for us that night, covered with perspiration as we were from our late exertions. Fortunately, there was a light breeze and a temperature of only ten below. Sixteen hours was our time for the forty-eight miles, the longest and hardest trip over

that course for four years, a course which we had repeatedly covered in nine hours.

Within two days we were headed for the ship at Parker Snow Bay, each sledge loaded with about 350 pounds, all the equipment requested by Doctor Hovey and consisting of pemmican, oil, skins, clothing, snowshoes, and trading material. Familiarity now with the dangerous spots along the ice-foot below Cape Alexander enabled us to complete the trip with safety and much more easily than we had done a few days before. At the end of the trip, however, we were ready to crawl into our warm bags and eat all that the law allowed.

At Nerky, Ah-now-ka handed me a letter from Doctor Hovey, stating that the food was very low and that their condensed milk, butter, and sugar would all be gone in a very short time. It was absolutely necessary, he thought, that they should all leave the ship and go to Etah. Ever mindful of the needs of the men on board, as we proceeded through the Eskimo villages we continued to trade hareskin for stockings, ookjuk-skins for boot soles, and dogskins for mittens. Good going all the way down the line spurred us on to reach Umanak on Christmas Eve, where Freuchen was expected to entertain all the members of the Crocker Land Expedition.

In contrast to our visualization of a warm, well-lighted house, plenty of food, and a jolly, laughing band of men, we found a cold, dark house inhabited only by a few Eskimos. The joys of a home Christmas were very, very far away from us that night. The arrival of Freuchen, Hunt, and Captain Comer on the next day, however, partly compensated for our loss of a happy Christmas; the latter was the ice pilot on the

Cluett and a famous old whaling captain from East Haddam, Connecticut. I had never seen Captain Comer before, but I had read much about him; a thorough seaman, he interested me greatly.

The difference in the temperature between Etah and Umanak was very noticeable. Etah, because of its contiguity to the large strip of open water always found off Cape Alexander, and because of the adiabatic heating from the downrush of air from the summit of the Greenland ice-cap, is considered to be the warmest settlement in the North; it has a mean annual temperature of + 8° F. On December 26th at Etah, the lowest temperature recorded during the day was fifteen below zero; at Umanak, North Star Bay, upon the same day, the temperature stood at forty-two below.

I learned from Freuchen that the plans for sledging the boys south were very indefinite. Fearing a repetition of the hardships of our 1915 trip, I deemed it necessary to consult with Doctor Hovey at once. On the 26th, in company with Na-hate-e-lah-o, I proceeded over the land southward to Parker Snow Bay, reaching the ship about seven in the evening, to be greeted in Eskimo by Captain Pickles as we drove up to the rail. Ekblaw, Tanquary, Allen, and Doctor Hovey were comfortably quartered in the after cabin of the ship; the first three looked the picture of health, but the last named seemed old and decidedly unfit for the sledge trip planned across Melville Bay. In view of the fact that only four men could be transported to Upernavik by the Eskimos, Doctor Hovey and I decided that, including himself, the party should consist of Tanquary, Allen, and Green, all of whom were very anxious to go; and, coincidentally, the least fitted, in the opinion

of Doctor Hunt, to withstand the rigors and privations of a third year. Tanquary, I hoped, would consent to remain with Ekblaw and Hunt at the sub-station at North Star Bay. The stubs of his toes were healing rapidly. Doctor Hunt, who, for many reasons, should have been given first place on the retreat, magnanimously consented to remain in the North, where his services, in case of sickness or accident, either at Etah, Umanak, or on the ship, could be available.

With plans completed and everything settled I was away again northward by way of the sea ice, reaching Umanak in twelve hours with my face a bit frosted. My dogs, fed on caplin (*Mallotus villosus*), were now in wretched condition, for they had been traveling for three months with but little rest. Not an ounce of meat at Umanak, and the dogs too weak to travel!

Koo-la-ting-wa, a good fellow, lived at Netchilik, some sixty miles north. His caches were filled with narwhal. I would send for him to come at once and bring meat for my dogs. On the third day he was there with all the meat needed, enabling me to start right back with him and the other Eskimos on January 4th.

Koo-la-ting-wa accompanied me all the way to Etah, where we arrived on January 12th, finding Jot, the only white man left, happy and well and full of interesting experiences which he could narrate in a most masterly manner. Jot is a born story-teller, drafting his partially bald head, his wizened face, his arms, hands, and body completely into his service as a raconteur.

During my absence We-we, our house servant, discovered a can of whisky in the medical department. Jot consented to her request that she should hold exercises commemorative of her two-year anniversary at

Borup Lodge. After pouring out the precious beverage into six cups, she placed them carefully on the pantry shelf to await the arrival of her invited guests, all of whom felt highly honored and very much elated in anticipation of the promised treat. Unsuspecting, she left the room. Upon her return some minutes later things did not look right nor smell right.

Seated in the middle of the floor was Noo-ka-ping-wa, her youthful husband, wearing a foolish grin, spasmodically broken by hearty guffaws and accompanied by a swaying of the body and a slapping of the palm of his hand against his thigh in self-congratulation at his trickery. The whisky was gone! Noo-ka-ping-wa had celebrated the anniversary by drinking enough for six! Result—a fine drunk and then a drag-out an hour later. The invited and expectant women, failing utterly to appreciate the incident, walked solemnly back to their tea and dog-biscuit.

Contrary to the general understanding of Arctic work, every hour was fully occupied, even through the dark days of winter. There were meteorological observations to be recorded, chronometers to wind, barographs and thermographs to attend to, twelve dogs to care for and feed, food to be dug out of the snow, meat to be secured from caches down the coast, frozen eggs to be brought from Littleton Island, and constant preparations going on for the long, forthcoming spring trip which I was planning to make to King Christian Island.

If it were not for such busy days, one would certainly become demented with the almost constant howling of the violent winds peculiar to Foulke Fiord. We often drove from the beauty and quietness of a perfect Arctic night ten miles below Etah into a maelstrom of whirl-

ing snows swept from the neighboring 1,000-foot hills toward the open water in the middle of the Sound. Such weather conditions were a bit discouraging to a man ambitious to maintain his good health by daily exercise, which is just as essential as good food. How we berated those winds! And yet we realized that but for those winds our fiord would be deep with snow, making good walking and sledging most difficult. With hands clasped behind the back and body thrown forward, so that our heads were level with our waists, we have bucked those biting winds for weeks and months.

Panikpa surprised us on January 31st with the report that he had seen and fired at two caribou at Alida Lake, four miles from the house. Sixty years ago they were so numerous that often 100 could be counted feeding around the shores of this lake. Doctor Hayes, when wintering across the harbor, having more fresh meat than he could possibly use, fed his dogs upon caribou meat.

Panikpa's report put every one on the alert. Caribou meat at this time of year would make a delightful change from walrus and seal. Continuous heavy wind and snow, however, discouraged us from climbing the hills to the plateau above, the wind-swept feeding-ground of Arctic hare, caribou, and, in years gone by, of musk-oxen. Many of the massive skulls of the last named were found in the vicinity of Etah. At the present time, however, this species does not exist upon this western coast until the latitude of 81° is reached.

On February 14th a drop in the wind and a rise of temperature to eighteen below zero started both Jot and me out with our rifles, I to the lake, where there were unusually large numbers of blue foxes, and Jot

to the plateau, where he discovered two caribou. They were the first he had ever seen and they more than attracted his attention. He declared afterward that buck fever was a kind of paralysis. That he was not wholly affected is shown by the fact that he shot both of them.

Laying aside his rifle, he walked toward the edge of the cliff, and within a few minutes found himself face to face with three more. By this time he was considerably excited, and arrived at the house quite out of breath. He and Panikpa started back at once, without their rifles, with the intention of shooting the bodies down the 1,000-foot slope to the sea ice, where I would be stationed with the dog-team. Two hundred yards from the house four more caribou popped around a corner only a few yards away. Jot arrived at the house wild-eyed, shouting that the country was crawling with caribou!

Because of deep snows covering their feeding-grounds between Etah and the Humboldt Glacier, the herd was evidently migrating south along the shore in search of various lichens, ground-willow, grass, and moss. Many were killed in our vicinity within the next six weeks; they were all small, the heaviest weighing only 120 pounds.

This is not the white caribou (*Rangifer pearyi*) which we had killed on the northern shores of Axel Heiberg Land in 1914, but a variety of the European (*Rangifer grœnlandicus*), once existing in vast numbers from the Humboldt Glacier, latitude 79° 10′, throughout the whole stretch of coast-line southward to Cape Farewell, latitude 59° 49′.

Formerly hunted with bow and arrow and even with

the killing-iron, the reindeer, or caribou, had a chance for his life; but since the advent of the modern high-powered rifle the species has decreased rapidly in numbers. At one time 16,000 skins were exported annually from the royal trading-stations of Greenland; at the present time hardly a skin leaves the country.

An interesting belief exists among the Eskimos of Baffin Land in regard to an albino caribou. This caribou, supposed to have been hatched from a white egg somewhat larger than that of a goose, must never be killed, for death to the hunter would follow unless certain penalties, imposed in violation of the taboo, were suffered for one year. For example: (1) he must not work an iron; (2) the hood of the coat must be worn over the head; (3) he must wear a belt; (4) blood must not be removed from the clothing. If these customs are not observed, the offender will be covered with boils and will certainly die. If, on the other hand, nothing is done to displease a caribou, the man will become a great angakok, a shaman, or medicine-man.

News reached us by dog-team on February 15th of the departure of the mail-teams southward bearing Tanquary, Allen, and Green back to civilization; and of the expected physical breakdown of Doctor Hovey, which had compelled him to return to the ship. He was game to the last, and did not give up until he had convinced himself that it could not be done.

On Washington's Birthday we were off to the south, our impatient and well-rested dogs almost uncontrollable, and covering the distance between our lodge and Port Foulke, Hayes's winter quarters, within a few minutes. Again, as in the past, my impetuosity nearly cost me my life. My dogs, leading by 200 yards, dashed south-

ward over the sea ice almost to the water's edge, when repeated warning cries from the Eskimos revealed the startling fact that I was adrift on a large sheet of ice. The telltale crack had caught the sharp eyes of the natives, while the unsuspecting and inexperienced white man had driven straight on into danger.

Around we whirled and back we went into the face of the rising wind, but, oh, how slowly! What was the matter with my dogs! The crack was steadily widening, but as yet not too wide for the leap. As I looked back at the white patches drifting to leeward into the heavy vapor arising from a white-capped sea, I knew that life out there would be a matter of only a few hours. To swim would have been the only recourse and the fatal result almost certain.

A survey from the summit of the hill below Port Foulke revealed open water at Cape Kenrick to the south. Heavy wind on the ice-cap, as evidenced by the smoky appearance above the rounded dome, compelled us to abandon our trip and return to Etah.

A few hours after our arrival, to our astonishment old Ak-kom-mo-ding-wa and his wife, Inah-loo, were seen driving across the harbor from the south, causing the Eskimos to remark laughingly that they must have come by ship. They confirmed our fears of open water, having followed the ice-foot for days on their way northward, and at last reaching home by encircling the Crystal Palace Cliffs and Cape Kenrick at the edge of the glacier, returning to the sea ice by way of the Sonntag Pass.

A few days later a repeated "Ah-chóok, ah-chóok, ah-chóok," coming from the darkness well out in the fiord, was followed by the appearance of two sledges

and three men—Ekblaw, Mene, and Oo-bloo-ya. Open water had compelled them to cross the ice-cap from the head of the Clements Markham Glacier. Missing the Sonntag Pass, they had attempted a descent on the south side of the fiord, resulting in considerable excitement and the wrecking of Mene's sledge.

Ekblaw had been one week on the road. He reported that Captain Comer was in charge of the substation and that Doctor Hunt was at the ship, where he was needed in attendance upon a young man suffering with tuberculosis of the bowels. His recovery was considered doubtful. Doctor Hovey was in very poor health, but was slowly recovering from the keen disappointment experienced by his compulsory return.

It was good to see Ek again, for Jot and I had talked each other pretty well out. Fortunately, we were born in the same place, Provincetown, Massachusetts, and had much in common. Every wharf, building, home, street, person, crab, and fish was talked over again and again. In naming every house from one end of the old town to the other we stood ready to correct each other if a single mistake were made.

The long spring trip was always the culmination of our winter's work and plans. A few more skins for boots and mittens, and rawhide lines for sledge lashing and whips, were needed; these could undoubtedly be secured at Nerky, to which we directed our course on the 29th, *via* the ice-cap route.

Due to a strong northeast wind and heavy drift, Mene and I lost Oo-bloo-ya and Noo-ka-ping-wa within an hour. As we arrived in sight of the projecting cliffs, in the region of Cape Saumarez and Cape Robertson, neither of us knew where we were. I had been there

only once before, and then by moonlight, and Mene had never crossed from north to south.

We hardly knew what to do in our dilemma. To await the men and have them pass unseen would result in our sleeping on the ice-cap with no sleeping-bags—not a warm outlook. There were ominous discomforts and no small amount of danger in going on. A descent by the wrong glacier might result in a drop into one of the numerous intersecting cracks, or we might bring up against a vertical face blocking our course completely.

We went on. The *sastrugi* (wind-carved ridges) cut our path at right angles, and the intervening hollows gave to our sledges the motion of a ship in a heavy sea. I was too much occupied with the antics of my own sledge, and I soon lost Mene as he disappeared in the darkness, stern first, after running over his dogs and capsizing his sledge. He was waiting for me at the bottom of the Clements Markham Glacier, having made record time.

Even here, where sea ice generally exists, there was open water, which forced us to take to the ice-foot along the shore until we were blocked by a projecting buttress. As we had no testing-iron, we wisely ran no risks; we could plainly see phosphorescence on the surface of the ice, indicative of only a few hours' freezing.

We made tea and ate a piece of chocolate—all we had—under a shelf of rock. Within an hour the other two men overtook us, exclaiming that they thought we were back on the glacier.

As we were about to prepare for the night, to my astonishment we saw a light out on the ice. Noo-ka-ping-wa was looking it over with a candle, and he

declared it to be perfectly safe. We drove on at once to Nerky and remained three nights.

On the return trip we spent a few days at Kah-gun in the snow houses of Tung-we and Teddy-ling-wa. With the constant breaking away of the sea ice they had had no opportunity of hunting walrus or seal, and consequently had but little food. In one of the igloos rockweed (*Fucus*) was being boiled for the children, a food which is never resorted to until all other sustenance is practically gone.

In the ascent of the Clements Markham Glacier on the 7th my big king-dog dropped down a crevasse. Fortunately for us both, his trace and harness were strong enough to sustain his weight until pulled back to safety. A much too valuable dog to lose. His price had been five gallons of oil and a three-burner stove. But a dozen stoves or a hundred gallons of oil wouldn't buy him now! Nale-gark-suah was the largest dog in the whole Northern tribe, and, although one of the oldest, he was still one of the very best. He was a noted bear-hunter and yet as affectionate as a child. When he placed his great paws on my shoulders his face was on a level with my own.

We directed our course to Etah by the most direct way, a bee-line to Brother John's Glacier; but when in sight of land a heavy mist rolled up from open water, obliterating all familiar marks. It was a question now as to which course to follow. The glacier (Brother John's) might be dangerous at this time of year. The Sonntag Pass was too far to the southwest and was lost in the mist. Before us to our left stretched the boulder-strewn plateau, the summit of the great hills above Etah. We knew that the Eskimos sometimes

traveled by way of the plateau and we ventured to try it, although neither of us had ever been that way.

Every rock and knoll looked like a mountain in the magnifying mist. So deceiving were appearances that for some minutes I was in doubt as to our being in the vicinity of Etah at all. At length we recognized a small butte, visible from the door of our house, and this identified our location positively.

So compact was the snow on the slope downward to the sea ice that it was entirely out of the question to consider driving down, or even holding back on the sledge with the dogs in the rear, an expedient often adopted on a sharp descent. Whereupon Noo-ka-ping-wa resorted to the ruse of placing the sledge on its side, the ends of the crossbars and one upstander scoring the snow deeply and serving as an effective brake. The dogs, threatened with the whip, sat back in their harness and helped considerably. Finally, covered with sweat, barehanded and bareheaded, and stripped to our undershirts, we arrived at the surface of the fiord, and within a few minutes stood in front of our door.

XI

TO KING CHRISTIAN ISLAND

IN Sherard Osborn's journal, under date of April 29, 1853, appears the following passage:

> About thirty miles to the N. W. (or more), I distinctly saw land looming; it appeared extensive, and I took the bearing of the two parts of it and not the extremes.

This land was seen from the northwestern extremity of Bathurst Island and was called Finlay Land.

On April 27, 1901, Isachsen and Hassel, of the Sverdrup Expedition, when sledging along the southern shores of Ellef Ringnes Island, descried a land which was subsequently named King Christian Island.

Geographers have considered Finlay Land and King Christian Island to be one and the same land, the southern part in 76° 53′ N. and the northern in 77° 50′, with an area of some 3,000 square miles. Up to the date of our sailing, the unity of these two lands had been accepted without question. To encircle, map, and explore one or both was the task assigned to me in accordance with our plans for a survey of the region north of the Parry Islands, as announced by the American Museum of Natural History.

"Strong northeast wind with heavy drift" is the

common entry in my journal for the first seventeen days of March, 1916. Wind and drift, man's two great antagonists in the North, so thoroughly hated and cursed by the Arctic explorer! "Hellish" is the only fittingly descriptive word. Man hums to himself, calls cheerily to his dogs, and laughs aloud in temperatures of fifty and sixty below, clothed as he should be, like an Eskimo; but wind at that temperature cuts like acid, blackens the face, and whitens the fingers.

Through the drift, swirling about our house and across the fiord, I anxiously watched the harbor entrance for crawling black dots—dog-teams coming from the south, my Eskimo helpers who had promised to be at Etah on March 15th. Carefully I had made out their calendars; carefully I had instructed them, whenever it grew dark, to cross out a day; then, when the last day was gone, they were to come to me. I had absolute faith in these black-haired Polar children. They had not forgotten. Wind and drift would not stop them. Open water was the cause of their delay, and so it proved to be.

Before breakfast on Sunday morning, March 19th, there was the glad cry of "*In-yuk-suit alla-kuk-a-yoot!*" ("Eskimos are coming!"). Such an early arrival indicated that open water and thin ice had been encountered a few miles south the night before, both dangerous to deal with in the darkness. One man only was missing, and I could not wait for him. I decided to get away on the 22d with six Eskimos with very light loads. Traveling light and fast, we could round and map King Christian Island and Finlay Land (neither of which had ever been visited), and return to Etah before the ice of Smith Sound broke up in June. If too late in re-

crossing, I could establish quarters at Cape Sabine and there await the relief-ship, which was expected in August.

March 20th, the advent of spring at home, was a howler—blowing, snowing, drifting, and seven below. Our Eskimo women took a last look at our boots and mittens, examined each carefully for rips, and softened the soles and padded in dry grass.

The storm continued on the 21st, with no prospect of ceasing. The barometer mounted to the extraordinary height of 30.83.

On the morrow I jump out of bed to the tune of rushing winds and driving snow. "Don't you think for a minute you are going to hold us up," I mutter to myself as I yank on my kamiks. Strange how conversational a man gets to be with the elements of the North! He treats them as living personalities; he abuses, curses, and fights them to the limit. When drifting snows bury dog and sledge and trail; when faces and fingers are black with frost and lips cracked and bleeding; when the numbed hands refuse to work; when thin ice and open leads offer no escape; when the wind suddenly whips around and cuts off the path which leads toward home; when dogs drop with weariness in harness and follow with eyes which haunt for days the retreating forms of their masters; when blackness blots the stars and grips the earth, and fuel is low; when rocks leap and bound from the cliffs above, grazing tupiks, men, dogs, and sledges—what better proof that this is the chosen home of Torngak, the evil spirit? Animism is real and is easily understood. When amid the shriek of winds the Eskimo hears strange voices in the blackness of the Arctic night, and sees strange forms,

I do not smile or question. They are as real to the savage as God is to the civilized man.

For months my Eskimos have known my objective point. The way is long, the time is short, yet they are willing to face wind and drift if I say the word. "Once around Sunrise Point and we shall have the drift at our backs," I say, encouragingly. They smile as they pull their kool-e-tahs over their heads. They are going far to the west, to a new land, where none of their tribe have ever journeyed, and there we shall see strange things. There we shall kill musk-oxen, and polar bears, and white wolves, and caribou, and Arctic hare. And meat! Our sledges will be red with meat. And skins! Our beds in our winter igloos will be warm and deep in skins. What ideal traveling companions the Eskimos are! Children in their simplicity, men of iron in their make-up. Tireless and fearless; happy and confident; honest and faithful; savage, yet full of kindness of heart; ignorant, yet truly educated; lawless, yet lawful; immoral, yet shaming the moral; healthy, strong, vigorous, intelligent—such is this primitive man who knows nothing of our boasted civilization.

Rounding the Sunrise Point of Doctor Hayes, we swing up past historic Littleton Island. It is the focusing-point of Smith Sound history. Swept by winds, worn by the Arctic pack, it stands in the swirling tides of Cape Ohlsen as a guide-post to the Pole.

With wind and drift at our back, we fairly raced through the narrow channel between Littleton Island and the mainland, and were soon lost among the rough ice north of the *Polaris's* winter quarters. To my surprise, the ice beneath the deep snow was very thin and treacherous. Four of my team were soon floundering

in a deep hole. Three of the dogs, in their endeavor to get out, scrambled onto the back of the king-dog. For a few minutes I thought that he would surely be drowned. Weighing nearly one hundred pounds and thoroughly water-soaked, it was only with great difficulty that I succeeded in getting him onto the surface of the ice.

Gradually we picked up one another near Cairn Point, each man's clothes driven full of snow, and his sledge resembling a small iceberg. Open water off Cairn Point drove us over the land to Ka-mowitz, where we built two snow houses. Only twenty below zero! What a contrast to my night here two years before at fifty-four below! I remember well my entanglement of frozen traces and well-nigh frozen fingers. There is a certain kind of work which one cannot do with mittened fingers, such as repairing a harness, knotting a trace, or making a whip-lash. It is then that one sings familiar songs and wonders if "somewhere the sun is shining."

Shortly after starting in the morning, we narrowly escaped a bad accident. Ah-kom-mo-ding-wa, my oldest Eskimo, got away first and dashed along the ice-foot some ten feet above the water. As he rounded the curve of a small bight, fifty yards from camp, about ten yards of ice-foot, which had been clinging to the vertical face of the cliff, dropped into the sea with a crash, leaving him fairly tottering on the very edge. My heart was in my mouth in fear for the safety of him and his team. The old man smiled, waved his hand, and then chuckled at our predicament, wondering how we would get by. It was certainly ticklish work, where a slip or mistake in judgment meant a very cold bath.

Joining Ak-kom-mo-ding-wa one-half mile beyond on the sea ice, we were delighted to find a royal road stretching across Smith Sound and apparently leading directly to Victoria Head, forty miles distant. Five miles out I said good-by to Kae-we-ark-sha and Tau-ching-wa, two boys who had helped us with our loads.

In 1861 Doctor Hayes and his men consumed thirty-eight days in crossing this stretch of ice; the answer—inexperience and poor judgment. In 1914 we crossed repeatedly in six hours by traveling on the thin ice at the edge of the water.

With the head of Flagler Bay as my objective point, I kept well north for Victoria Head, the first day covering about thirty miles, and camping in the midst of a maze of bear tracks. This was encouraging, as we were depending upon the country to supply us with meat for at least half the time.

Starting out on the 24th, we could see the termination of our smooth white highway only a few miles ahead. "A hard trip," I thought to myself, "for the rest of the way." Imagine my surprise and delight, upon rounding a sharp turn, to find it continuing even broader and better, and—a bear right in the middle of it! The race was on! Ninety leaping dogs, eight bounding sledges, eight long, snapping whips, a long, level straightaway, and *nanook-suah* (big bear) bound for the western shore! Fortunately, we differ vastly as to our ideas of real sport. One man strides a horse and follows a pack of yelping hounds in pursuit of the red fox, and calls it "the king of sports." Another man strides a horse and follows a wooden ball with a mallet, and declares it to be the only game. The Eskimo strides his sledge, yells to his ten leaping dogs, and is in heaven. Seal-

hunting is a pastime; polar-bear hunting is sport. And to see that magnificent, yellowish-white body, every movement of which denotes agility and strength, swaying gently back and forth on a snow-white pedestal, holding off a pack of dogs, is one of the sights of a lifetime. All honor to the "tiger of the north," every inch a fighter.

When we blocked the door of our snow house that night well to the west of Cape Sabine, our dogs were rounded out with fresh meat, my Eskimos were anticipating a delicious supper, and all were happy with the thought of to-morrow's work. There is a world-wide gap between a full stomach and an empty one.

Thirty below to-night, a good day to-morrow.

The next day, as we dashed rapidly along over the smooth ice on the south side of Bache Peninsula, the question uppermost in our minds was, "Shall we get seals at the mouth of Flagler Bay?" "Yes, we certainly should," they all declared. How did they know that there would be a pool of open water far up at the head of a fiord, seventy-five miles from the sea? They drew their conclusions from a perfect knowledge of weather conditions—often a matter of life or death with these Northern people. In 1914 we found the ice open; result, seals which saved the lives of our dogs. In 1915 it was solid from shore to shore.

Sure enough, as we wound our way through the Weyprecht Islands we soon descried the water glittering in the sun like a bed of molten silver. The Eskimos hitched their dogs securely a hundred yards distant, loaded the magazines of their rifles, carefully coiled their harpoon-lines, and were off to the edge of the ice, where they took up their positions, surrounding the pool.

Within a minute a round head with extremely large eyes appears above the water. A whispered "Ta-koo!" A hurried sit down by Arklio, a careful sighting along the rifle-barrel, held securely with elbows on the knees, a sharp report. The head has disappeared beneath a whirl of crimson-stained water. A few inches of a rounded back drifts to the east with the ebb tide. The Eskimo grasps his harpoon and line and runs to the lower edge of the pool; then, and as the body is about to disappear beneath the ice, he buries the ivory iron-tipped point deep into the flesh. The game is on; we have scored one. Twelve seals in almost as many minutes! The boys harpooned the dead from a distance of twenty-five and thirty feet. Here amid the silence of the great white hills these fur-clad figures, at ten below zero, laughed and joked and matched their skill as so many school-boys in the warm South. How they roared with laughter and gibed each other unmercifully when a miss was made!

Seal meat was cached under the snow against our return in May. Possibly we would be in extreme need of it, and neck to neck with time, in our race with the break-up of the ice of Smith Sound. Fifteen miles a day were necessary, come what would—strong winds, drifting snows, thin ice, little food, sickness, accidents, extreme temperatures. Thus far we had covered nineteen, booking up extra miles for days of enforced idleness in snow houses far to the west.

On the 27th, a dog showed signs of "piblock-to," a strange disease rightfully dreaded by every explorer; it is a form of rabies, and fatal. Once it has fairly invaded a team, extermination is the certain result. It has thwarted many well-laid plans, has sent many a

ESKIMO KAYAK. WONDERFULLY ADAPTED FOR THE PURPOSE OF HARPOONING WALRUS, NARWHAL, AND SEAL

WHEN THE AH-WA-TA, THE INFLATED SKIN OF A LITTLE RINGED SEAL, MOVES THROUGH THE WATER IT IS AN INDICATION THAT THE HARPOON HAS BEEN DRIVEN HOME. IT IS ATTACHED TO THE HARPOON LINE AND SUPPORTS AND ALSO DENOTES THE LOCATION OF THE ANIMAL

man back to his winter quarters discouraged, has turned prospective victory into utter failure. How a dog suffers! Restlessness is succeeded by whining, yelping, bloodshot eyes, drooping lower jaw, stupidity. Every dog within reach is attacked, and nearly every attack is fatal within fifty days. Strange to say, the dog craves the companionship of man, is very affectionate, wants to be fondled, and seems more at ease when receiving attention. I have often seated myself beside a dog fairly frightful to look upon. He is trembling with the pain of a dozen wounds inflicted by his team-mates, his eyes are wild and red, his lips frothy and bloody. A gentle stroking of the head and the whining ceases, the eyes close, the dog sleeps. Is there no help? The Eskimo points to *See-oog-ly* (Arcturus), sweeps his arm half-way about the heavens, and declares, "He will die when the star reaches that point." The white man adds, "He will die now with the bullet, rather than suffer for that length of time."

The Flagler Pass was now before us, with its uncertain conditions from year to year. In 1899 Sverdrup found the valley bare of snow and rough with rocks, which smashed and wore the sledges, necessitating unloading and packing everything to his farthest west. This year we had had an unusual amount of snow, which was encouraging for the crossing of Ellesmere Land. In nine hours we reached the summit of the divide. Nothing escaped the sharp eyes of my Eskimo boys—there at the base of that boulder Doctor Cook left a cache; here Whitney killed a musk-ox; around the next turn thirty hare were seen feeding four years ago—such were the comments as our sledges wound their way steadily up and on through that magnificent

valley, the old Eskimo migration pass of centuries ago.

A strong northeast wind, heavy drift, and eighteen below had no effect whatever upon the cheerful spirits of my men. The snow blocks were quickly cut from a sloping bank amid laughter, jest, and banter. E-took-a-shoo was at his best as he skilfully molded block after block into place. A slice off the end to bevel it, a glitter of the knife beneath to shape it, a thump with the heel of the hand to set it, and presto!—a palace. "*Timakee-za!*" ("All through—finished!") is the happy call from the inside of the white dome at the end of the day. And now for real comfort! The dogs are fed and securely fastened for the night; the sledges are unpacked; all the skins are whipped and beaten thoroughly with the snow-beater, a constant and indispensable companion.

Ice is always secured for our tea, if possible; otherwise, clean snow will answer the purpose. The snow bed is buried deep with furs, on top of which are placed four light caribou sleeping-bags. The comfort and coziness of an eleven-pound caribou bag! At fifty-five below zero, I have stripped naked and plunged into one of these bags, where I have found warmth and comfort. The Primus stove is lighted, the door is blocked, and the day's discomforts are forgotten.

The 29th was spent in sledging our loads to the back of the Ellesmere Land ice-cap in the face of a heavy wind and drift, which helped us, however, on the return, fairly blowing us down into camp from the edge of the glacier, the dogs racing back with empty sledges.

To my surprise, at five in the morning there was a strange voice at the door, which we soon recognized as that of Ak-pood-a-shah-o. He had reached Etah two

days after we left; then he had rested his dogs two days, and followed us, covering 150 miles in three marches. I thought we were doing well to reach this point in seven. This is an illustration of what good dogs can do. I was even more surprised for him to hand me a small lens, one-quarter inch in diameter, which I had lost on the trail some forty miles back. Let there be no doubt about the quality of an Eskimo's eyes.

After two hours' sleep he was ready to leave with us at ten o'clock. Up the glacier the going was good, the snow hard, and no wind. Coming down, however, we caught the very devil! As we descended the wind and drift increased, until finally it was a smother, blinding the dogs and driving into our clothes. We had perspired freely going up, and now we were regular snowballs. It was only by exercising vigorously that we could get warm with the thermometer at forty below zero.

In the bed of what looks like an old lake we made tea and waited for Panikpa. Finally we gave him up, and were about to start on when he and his team of pups came down over the hill.

In the mean time the Eskimos amused themselves by cutting figures of animals out of the snow, and the likenesses were remarkably good.

A short climb from here to the summit of a hill to the west, and away we went down into Bay Fiord, over rocks, sand, boulders, and deep snow. There were many mix-ups and loud curses as two teams rushed together. Two of my traces were cut under the runners, and three of my dogs ran free, the snap-hooks being worthless. Arklio was compelled to slip his best dog, as she had shown symptoms of piblock-to early in the day. We

never saw her again. In the river bottom, we laboriously dragged and pushed our sledges over jagged rocks and stones hidden under a thin cover of snow, ruining our runners and tiring out the dogs.

As we drove into Ekblaw camp of two years before, we detected signs of musk-oxen. The two boys with me were so excited that they wanted to start off immediately, loads and all. When the others arrived, I told five of them to throw off their loads and follow the tracks, while two would remain with me to build the igloo. They drove east into a small fiord, but in about half an hour came tearing almost through our camp, driving west and following the trail down Bay Fiord.

By this time it was two o'clock of the 31st. At four, Koo-la-ting-wa was back after a stove and to tell us that they had killed nine musk-oxen. With a keen appetite for fresh tenderloins, we were up at eight and dashing down the fiord in search of the igloo of the hunting-party. At forty-four below, it was easily detected at least a mile away by the white vapor rising from the top.

Three more musk-oxen the next day, and tracks of a polar bear kept the tails of our dogs tightly curled and the men ever on the alert. We were soon hot on the trail of the biggest bunch of activity I have ever encountered. After following her for five miles through the rough ice, we turned shoreward to find that she had gone into the country, then up over a high hill, across a ravine, then up another hill.

We slipped our dogs, which were soon out of sight and sound. Noo-ka-ping-wa and I returned to the sledges; Ak-kom-mo-ding-wa went on. Some of our dogs came back, so we harnessed up, placed Ak-kom-

mo-ding-wa's sledge on top of Noo-ka-ping-wa's, and drove on to meet Ak-kom-mo-ding-wa, who was returning on another sledge to tell us that the bear had returned to the sea ice and had been shot by E-took-a-shoo; the latter, driving up the coast, had seen her coming down the hill to meet him.

I quote from my field journal:

April 3, 1916, Monday.—I am wondering how long this is to continue—perfect weather and fresh meat every day. A bear, two musk-oxen, and a hare to-day.

If I live to be a hundred, I shall never see a better scrap with a bear than we had to-day. About an hour after turning into Eureka Sound, we saw a bear sitting at a seal-hole, I should say one mile from shore. She did not see us coming until we were about 150 yards away. The dogs were then at full gallop, and every Eskimo shouting at the top of his voice.

She jumped to her feet, turned her black muzzle toward us, stretched out her neck, and sniffed the air. Then she decided to leave, which she did in jumps resembling the skipping of a gas-engine; it was a cross between a gallop and a trot. Her gait would have driven a good horseman to drink. A small pup of Noo-ka-ping-wa's was right at her hindquarters, taking a nip whenever she touched the ice.

I was second in the chase, my dogs going at full speed. I turned to get my camera out of the case, and when I looked again I had passed Noo-ka-ping-wa and was within ten yards of the bear. Just then she turned. My dogs split, some going one side of her and some the other, with the result that I scooped her up with my sledge. When I realized that she was "coming aboard" I deserted my ship and ran out to one side. In a few seconds she was fighting for her life against ninety dogs. What a moving picture that would have made! They fairly buried her.

I was running everywhere, trying to focus my camera and yelling to the Eskimos to shoot to save the dogs, which we could hear howling with pain. To my surprise, there was not a rifle in sight. I yelled for Arklio to get his revolver, a .45. By this time the circus had started south, with me hanging to the back of my sledge and threatening my dogs in all kinds of language if they didn't stop; but that was the last thing they thought of doing.

In the mean time the Eskimos were spending their time yelling

and snapping their whips. Noo-ka-ping-wa was brandishing a sealing-iron, and finally threw it into the body. Seeing Ak-kom-mo-ding-wa hopping around with a Winchester .35, full-cocked, I grabbed it out of his hand, thrust the muzzle down between the dogs, and pulled the trigger. This ended the scrap.

Just before sighting the bear we had seen two musk-oxen to the south of us on a hillside. Therefore I decided to drive down, skin our bear there, build an igloo, and send two of the men after them. In two hours they were back with two very old males. One of these, because of a peculiar broken horn, I have skinned for mounting.

Our game list thus far reads: Fourteen musk-oxen, thirteen seals, three bears, and twelve hare.

From our igloo on the morning of April 4th I could see a distant blue headland far down on the western side of Eureka Sound. I hoped that we could make it. At eight that evening, when we had about given up bears and musk-oxen, and were sitting on our sledges, holding our noses in our hands, at forty below zero, E-took-a-shoo sighted a bear, and away we went, forgetting all about the cold. This bear must have been the twin sister of the one we shot the day before. She acted exactly like her, and had the same kind of mix-up with the dogs. My little pup, Natu, who was running loose ahead of the sledge, bravely attacked the bear's hindquarters. She turned and gave him such a slap with her great paw that he rolled over and over for a distance of twenty feet. Every available weapon was used in the fight—killing-irons, revolvers, automatic rifles, and dogs. I have never seen dogs so savage. They were fairly thirsting for blood. Only a vigorous application of the long whips kept them from tearing the skin to pieces.

After the fight Ak-kom-mo-ding-wa arrived with his face buried in his mitten, exclaiming that he had frozen his nose. The Eskimos immediately all grabbed theirs,

and mumbled through their mittens that mine was as white as snow. We were all frost-bitten and didn't know it.

In an hour we were on the trail again, having fed the meat to the dogs. We were tired and cold, but kept plugging ahead until we had finished our fifty miles, arriving at Bjornesundet. To my astonishment, after finishing our igloo, Ak-kom-mo-ding-wa drove off on the trail of another bear—excellent evidence of an Eskimo's untiring activity.

I now decided to send my first supporting party back to Etah with loads of musk-ox and bear skins. Old Panikpa was poorly clothed and suffering from the cold, his team of pups all in. However, he had done his best, had never complained, and was still willing to go on if I desired it. He and Koo-la-ting-wa returned in the morning, with nothing whatever on their sledges for their dogs. They were to depend upon the game resources of the country.

Leaving our igloo in the morning, we had a fine run of about five miles over good ice along the island shore. We then proceeded diagonally across Ulve Fjord toward a valley which appeared as though it might support a herd of musk-oxen, but we failed to see anything. Fresh bear tracks along the shore, with feet bunched, showing full speed, revealed traces of a bear seen by the boys from the last camp the day before. The dogs caught the scent and went south rapidly to a point where we found tracks of musk-oxen and could see through the glasses the hills dotted with Arctic hare. Within a few minutes the boys secured five and one ptarmigan.

We celebrated April 6th, the date of the discovery of

the Pole, by having a cup of condensed coffee, a great delicacy in the field.

Strange to say, although going true west along the southern shore of Axel Heiberg Land, our compass course was about sixty degrees east. In other words, to go west we headed by compass northeast by east, one-quarter east. In a few days more we would be heading exactly east to go west. This reminds me of the old man's clock, of which he remarked, "When she strikes three and the hands point to ten in the morning, I know she is quarter past five in the afternoon."

From the camp of April 7th I could see the loom of North Cornwall on the western horizon, bearing about thirteen degrees east of magnetic north.

All anxiety over my meat-supply was relieved on the 8th, when the men returned to camp, after a fourteen-hour hunt, with thirteen musk-oxen; sledges piled high with rich red meat and thick warm skins. A hard bear-fight here resulted in the loss of Arklio's king-dog and the severe wounding of one of E-took-a-shoo's. We were also compelled to shoot one with rabies, the fifth since leaving Etah.

Scarcely a mile from Musk-Ox Camp and another bear suddenly appeared in front of us. With three dead dogs behind us and one riding, unable to walk, we did not need to be admonished to "hold our horses." Our respect for the fighting qualities of this western bear was steadily increasing. Arklio wounded him from his sledge, going at full speed, before the dogs could reach him. We buried the meat and skin on the trail for our return.

All along the southern shore of Axel Heiberg Land the snow was marked with tracks of foxes, ptarmigan,

and lemming. We found lumps of bituminous coal, apparently of good quality, in every river-bed.

A short march on the 10th brought us to Cape Southwest of Axel Heiberg Land. We had covered 345 miles, at an average of seventeen miles a day. Our dogs, the all-important items of our equipment, were still in good condition, thanks to musk-oxen and bears. Thus far we had lost six, one tossed by musk-oxen, two chewed and clawed by bears, and three from rabies. My men were happy and eager to proceed.

I could not but help contrast my condition with that of exactly two years before, when I reached the northern end of this same land. With clothes driven full of snow from facing a bitter wind all day, we dug our way into a snowbank and shivered, and finally slept from sheer weariness—the Peary method, no sleeping-bags.

Tracks of musk-oxen along the ice-foot prompted Ak-pood-a-shah-o to hitch up his dogs and start for meat, following the building of the best snow house I have ever slept in. It was so large—thirteen feet six inches in diameter—that the roof began to sag within twenty-four hours.

At ten-thirty in the evening, right under the blazing sun low in the north, we saw the sledge coming, and heard Noo-ka-ping-wa, who had gone to meet it, shout: "*Mart-loo-ne!*" ("Two!"). Laughing and shouting, we escorted Ak-pood-a-shah-o into camp, as if he were a victorious general returning from the front. The dogs were fed to the limit. And then we feasted on raw frozen brains and delicious marrow from the cracked leg-bones. What gluttons we were! "Eat it all; clean it up. More can be obtained to-morrow," illustrates the incurable optimism of the Eskimo. But to-morrow we

failed, hunt as hard as we could. Tracks everywhere, but not a musk-ox could be found.

My older two men, Ak-pood-a-shah-o and Ak-kom-mo-ding-wa, were sent back from this point. The former had tears in his eyes, poor fellow. He wished to go the whole way, and I wanted him to go, but I was afraid his wife was without meat and even without an igloo. I waved to them as we headed west, over an apparently limitless field of ice, with Amund Ringnes Island as our objective point. Old Torngak had his eyes on us, sending a cold wind and a drift which obscured everything but our dogs. A good hard surface was soon succeeded by a slumpy crust, tiring the dogs and presenting a hard footing for us, walking in the rear of the sledges. For eight hours and forty minutes we traveled, with only two stops of ten minutes each to untangle our traces. Clearing weather enabled me in the evening to get bearings of North Cornwall, a high mountain on Amund Ringnes Island, and prominent points of Axel Heiberg Island.

I quote from my field journal:

April 13th, Twenty-third day.—Just eight hours from our igloo out on the ice, a total of sixteen hours and forty minutes from Cape Southwest. I should estimate our rate to be about three and one-quarter miles an hour. Allowing fifteen minutes each for four stops to untangle traces, our actual time was fifteen hours and forty minutes. That makes the distance fifty and eight-tenths miles. To save our dogs, we have walked half of this, at least.

Yesterday afternoon a land appeared northwest of us which did not correspond with anything on the map. I obtained a bearing of it of 79° east. I thought that possibly, as we went on, it might fit in somewhere, but to-day it is as much of a mystery as ever. My Eskimos declared it to be Cape Ludvig, and that we had missed and passed what we headed for. Calculating mentally the local apparent time, and taking a bearing of the sun, I told them we were all right and that the new land was not on the map.

I could see that they were incredulous. As we worked west, however, it soon opened out by Amund Ringnes Island, proving itself to be a long, narrow island about fifty feet above the surface of the ice, I should judge. We find here along the shore tracks of caribou. To-morrow we shall stop and try for game to save our pemmican. We were obliged to feed yesterday and to-day, which cuts us down twenty pounds each.

Temperature —23° at eight o'clock.

Having fed on pemmican for two days, I was a little concerned about the game-supply on Amund Ringnes Island, realizing that the extent of my work depended upon good fortune in this particular. My fears were set aside, however, when we sighted a bear with two cubs far out on the ice of Hendrikson Sound. They had heard us as we rounded the point to the east, consequently they had a good start. Our attention was first called to a streak of blood on the snow; then we saw the demolished seal igloo, and finally the carcass. Arklio, with the field-glasses, made out the bears headed at full speed for North Cornwall.

Hastily we threw everything from our sledges and whipped up the dogs. In the mean time, Noo-ka-ping-wa's team had left without him, heading west along the shore, and he after them, calling for them to stop. Gradually they headed offshore, and he was soon in the chase with us. And it was a chase! For five miles we went as fast as I have ever been on a sledge. My young dog, Pee-sée-a, fell, and in a second was being crushed under the bows of my leaping sledge. Creeping forward, I managed to get a grip on his collar and yank him free.

The mother bear, with two little ones by her side, could now be seen plainly. She stopped twice and started back as if determined to defend them, but the

sight of forty leaping dogs with mouths open robbed her of her courage and she went on.

Noo-ka-ping-wa slipped his dogs from the sledge to overtake and round her up. Vigorously plying his twenty-six-foot whip in front of our leaping dogs, he yelled for E-took-a-shoo and me to run on with rifle and camera. Scarcely had I gained a vantage-spot when E-took-a-shoo's team, excited beyond control, swept by with a rush of whirring legs and bounding sledge, followed by Arklio's ten blacks with flying traces.

In the midst of rifle-shots and yelping dogs I detected an unfamiliar sound of pain—the cry of a baby bear. Hurling myself upon three dogs, I wrenched the fluffy white ball out of their mouths and held it high above my head out of the reach of the leaping dogs. The little fellow, not appreciating the timely help of his rescuer, buried his sharp white teeth deep in my wrist. Gradually he became more tractable, sniffed of my bear-skin pants, and wondered if his mother were still on her hind legs.

In the mean time Arklio had shot the bear and Noo-ka-ping-wa had returned with the other cub and with a bleeding lip; as he clasped the cub to his breast to protect it from the dogs, it had grabbed him by the mouth. Both cubs were now crying for all the world like children with the croup and would not be comforted. We placed them upon the dead mother and they ceased whining at once and began to suck her breasts. Interesting to note, they were now no longer afraid of us, knowing that if their mother did not protest it must be all right. We lashed her to my sledge, placed the cubs on the body, and drove to land in search of our loads.

Our camp that night was on a small island not on

AL-NING-WA, THE WIFE OF ARKLIO

the map, one mile off the southern shore of Amund Ringnes Island, and unique as to its position, being practically midway between the Magnetic and North Poles of the earth. Theoretically, the compass variations here should be the extreme 180°; north should be south, and east west. "As true as the needle to the Pole" is but an empty phrase. Actually following such an injunction, no man could be more fickle, more untrustworthy, more uncertain in his purpose in life, or more devious in his wanderings.

The meridians here are so numerous that one could easily imagine our white way as being roughened with ribs leading to that lone spot at the apex of the earth. What explorer was it who, approaching the Pole, discovered, to his astonishment, that his snow-shoes were jammed between the meridians? Discouraging, after traveling so far and with the goal in sight!

Uppermost in one's mind in the North is the all-important question, "Have we enough to eat?" I had depended upon these vast snow-covered trails for rich red meat, strength and energy to my dogs, and success to my plans. Apparently it was a dead world, a world at rest beneath its mantle of snow and ice, all animal and vegetable life swept away; so, at least, it seemed to be from our camp of April 15th, as I awaited the reports of my three Eskimo boys who had gone back into the hills. All returned empty-handed late in the afternoon, but they reported traces of caribou, ptarmigan, and hare—somewhat encouraging.

At nine-thirty the excited yelps of our dogs notified us of the arrival of visitors, two large white wolves. The dogs were frantic in their demonstrations for a more intimate acquaintance. E-took-a-shoo's team, the most

vociferous, could contain themselves no longer; they leaped as a solid body, tearing out their fastening. The wolves took to their heels, bounding lightly over the sea ice to North Cornwall, easily outstripping their more cumbersome cousins.

Before leaving this camp we blocked up carefully the door of the igloo containing the skin of the mother bear and the skins of the two cubs, which I concealed carefully in the canvas cover of my blanket bag, anticipating possible visitors.

As we left this camp on the 16th, it was very evident to me that Pee-sée-a, my pet dog, who had been crushed under the bows of my sledge two days before, was suffering intensely. I slipped him from harness, allowing him to follow at his ease, hoping that by night he would be stronger and better. Long after we had made camp in Hassel Sound I saw him slowly making his way among the ice hummocks toward our igloo. I went back on the trail to meet him. He came up, placed his head and paws wearily in my lap, and said, as plainly as a dog could, "I am all in." Together we walked slowly back to camp, our last bit of companionship. He had followed me faithfully almost from the time when his brown eyes first saw light; and now he was to go alone, on the silent trail, far from the sound of snapping dog-whips and yelling Eskimos, to a land where loads are light and the going is smooth. The harness dangling from my sledge was a constant reminder that I had lost a good friend—the first on the trail after several thousand miles of travel.

On the 17th we reached the southern shore of Ellef Ringnes Island. The dogs had now traveled some 468 miles. Day after day since leaving home their little

legs had reeled off their seventeen miles. A few were sick, and with loose trace were endeavoring to keep their places in the team. All were tired and needed strength-restoring meat. One bear alone since leaving Cape Southwest of Axel Heiberg Land was but a mouthful for forty hard-working dogs.

April 18th was given over to a careful searching for game among the hills of Ellef Ringnes Island. Not a thing but the tracks of a lemming. Was game failing us at the very time when we needed it most? At five o'clock the haze which so often accompanies a low temperature (—33° F.) lifted from the ice, revealing on the distant horizon King Christian Island, our objective point. On the 19th, six hours and a quarter's travel brought us to the low shore which stretched back into the interior culminating in peaks some 2,000 feet in height.

We eagerly scanned the shore and hills for tracks of game, far more important to us than a careful examination of the physical characteristics of the country. With food we could do everything or anything; if it failed, nothing.

XII

BACK ACROSS ELLESMERE LAND

THE Demon of the North jealously guards his secrets; thus it has ever been. The ponderous doors which guard and encircle his domain are the massive, ever-stretching, relentless ice-fields which grip and grind and crush the hearts of ships, thwarting the best-laid plans of men.

The weapons which assail the explorer are extreme temperatures, heavy snows, drift, bitter winds, treacherous thin ice, high-pressure ridges; and often the result is starvation diet, sickness, death. Through the centuries man has struggled ever on and out over No Man's Land, rushing the thin ice of leads, scaling towering ice-caps, staggering along uncharted coasts, and wearily planting his flag upon hitherto unknown truths, glorying in his struggle against the elements for the accumulation of knowledge.

Only a few bits remain of the world's uncharted regions. This was one of them—a survey of the unexplored shores of King Christian Island. "*Ah-no-uk-suah! Pilt-suck-suah-tau!*" ("Much wind and also heavy drift!") was my morning greeting. Why couldn't the Fates have been kinder? Let such weather come at any time but this, when food was low and dogs hungry.

The three Eskimo boys, cheerful as usual, put on their heavy caribou coats and disappeared into the swirling drift in search of hare, caribou, or musk-oxen. Within a few hours they were back, white with snow and nearly blind with drift. Alas! they were empty-handed!

April 21st was a continuation of the 20th—wind and heavy drift. Reluctantly I ordered thirty-nine pounds of the precious pemmican fed to the dogs. There was nothing to do but forget my hopes and ambitions, hum, sing, tell stories, and enjoy my Eskimo companions. I got out the cards, made the boys a checker-board, and played the harmonica until my mouth was sore. One incident of the day caused me considerable anxiety. Arklio was seated beside me on the bed platform repairing a dog harness. Inserting the keen-edge blade of his pocket-knife in a loop, he endeavored to pull it through by main strength. The loop suddenly burst, releasing the knife, which buried itself deeply in his face between the inner corner of the left eye and his nose. With a whispered "A-tew!" he pulled it out and blinked at me through the flowing blood. "His eye is gone!" was my first thought, at the same time fearing that the blade had penetrated the thin cavity wall to the brain. But with a small strip of adhesive Arklio was quickly as good as new.

By noon of the 22d I had made my decision; I would return east that day, following a round of angles from the hills and a run down the coast south. We built a cairn, inclosed a record of our visit, took sights with the sextant for longitude, latitude, and azimuth, and broke camp. Within a half-hour we were heading home in a heavy snowstorm. What kaleidoscopic changes we experience in the Northland! How uncertain are the con-

ditions there! As luck would have it, when within a mile of our Ellef Ringnes Island camp a bear stalked out from behind a berg and walked directly toward us. Perhaps he was hungry, too. In such an emergency, the Eskimo's instinctive thought is his rifle; mine the camera. In an instant both were leveled out over the backs of our leaping dogs. As the bear turned, evidently mystified by our strange appearance, Noo-ka-ping-wa popped him from his sledge and released his dogs. Both disappeared into a large hole between the base of a berg and a snowbank. Instantly my dogs plunged over the bank, and as my sledge poised on the very brink, giving me a view of the struggling mass, I snapped the shutter and rolled to one side, exclaiming: "I got him! I got him!" With the camera clutched in one hand, I grabbed at the top of the bank with the other, tearing away a section and rolling ignominiously into the howling, yelping, fighting mass. Distance certainly does lend enchantment! A polar bear has beautiful teeth, and on a sunny day, mounted upon a pedestal of snow, with the limitless ice-fields as a background, he is one of the noblest of nature's creations—at a distance. I scrambled and crawled away from this beautiful thing just as rapidly as my forty-two years would permit. Another shot from Noo-ka-ping-wa's .401 and there was the bear, dead—the long-needed fresh meat. My pleasure at the thought of it was considerably mitigated by the sight of one of my dogs crawling toward me on his breast and whining piteously. With one blow of his great paw the bear had flattened him to the ground, crushing his hindquarters and breaking his back. I stroked his head and walked away. A .22 bullet ended his misery. The Eskimo did what I could not do.

Feeding our dogs and loading the remaining meat onto our sledges, we plugged along toward camp. When our dogs were hitched for the night they had full bellies. The singing Primus stove was lit, the door was closed, pipes were pulled out, and contentment reigned. Scarcely were we tucked away in our sleeping-bags when a sharp yelp from one of the dogs held us at attention. A few hurried whispers of "*Nanook-suah!*" ("Big bear!") were followed by E-took-a-shoo jumping out of his bag and clapping his eye to the peephole over the door. "*I-shoo-woo!*" ("Sure enough!") he said, under his breath. In the twinkling of an eye I was alone. My Eskimos had gone, leaving their clothes behind, merely slipping on their *kamiks* (boots).

I followed as quickly as I could and beheld a striking picture—three naked, brown, muscular bodies standing on a mound of ice with rifles to their shoulders, all taking careful aim. I hastened toward them.

The short bark of the Remington automatic and the snappy report of the Winchester .401 were followed by the crash of E-took-a-shoo's "I-mean-business" .35. Nanook became a huge white ball of hair, claws, and snapping teeth in his endeavors to bite holes in his hind quarters, now crimson with blood. Down, up, and down again. Then with a hop, skip, and a jump he headed for the Sound. E-took-a-shoo ran for his clothes, and Arklio for his dogs, while Noo-ka-ping-wa squatted on his hams and yelled with delight as he saw that silvery white turn to red.

E-took-a-shoo, now dressed, ran south toward North America, and with a good prospect of making it, I thought, if the bear continued on his course.

Noo-ka-ping-wa, our youngest and most active man,

was always in at the death. In a twinkling he was dressed, my dogs were hitched to his sledge, and he was off. At three o'clock they were back with the sledge red with meat.

Again we slipped down into our bags and again we scrambled out—another bear! They were finding us right at home. Bachelor apartments, evidently, for these were all males; the ladies must be over in Eureka Sound. The Fates were delivering our orders of the last two weeks right at our door and in truck-loads. The bottom had fallen out of the high price of meat. Rather than proceed with heavily loaded sledges, I decided to remain here another day, rest the dogs, and feed to the limit.

Here I built a cairn and inclosed the following record:

Easter Sunday, April 23, 1916.—Arrived here yesterday on my return from Finlay Land (King Christian Island) to Etah, North Greenland. I shall leave here to-morrow for Cape Ludvig. From there I shall proceed to North Cornwall, where I hope to find musk-oxen enough to enable me to map east coast as far as Gordon Head. Expect to arrive Cape Southwest about May 4th, and Etah, June 1st.

Thus far we have killed thirteen bears, thirteen seals, sixteen hare, two ptarmigan, and thirty musk-oxen. Have three days' supply of pemmican on our sledges.

I have with me three Eskimos—Noo-ka-ping-wa, Arklio, and E-took-a-shoo.

Have lost eight dogs out of forty-seven, three with piblock-to, three dropping on the trail, and two killed by bears.

All well,

MacMillan.

My diary reads:

April 24th, Monday, Thirty-fourth day.—This is one of the days when a man thinks strongly of the comforts of home. We left Three-Bear Camp at eleven-fifty this morning, hoping that wind and drift would subside in a few hours; but in this we were disap-

pointed. On the contrary, it steadily increased, giving us the first real taste of bad weather and discomfort we have had on the trip.

The condition of our dogs also added to our troubles. Rounded out with meat as they were, anything faster than a slow walk was positively painful. Consequently, we were compelled to walk the twenty-five miles, with the result that when we arrived at our old igloo on the east side of Hassel Sound we were wet with sweat and our clothes were driven full of snow. We are now trying to dry out, with both stoves going.

Arklio lost another dog to-day, a young dog loaned to him by Noo-ka-ping-wa. It was so badly injured by being run over with the sledges that he left it on the trail.

Thus far we have lost ten in all—Arklio, four; Noo-ka-ping-wa, three; E-took-a-shoo, one; I, one; and Ak-pood-a-shah-o, one.

Our dogs should go better to-morrow when they have digested some of their awful load. My king-dog is as round as a barrel and as lazy as a negro with the hookworm. To-day he is in disgrace. Was compelled to shorten his trace and warm him up a bit—the first time in three years of driving. He is eight years old, which is very old for a sledge-dog, but still holds up his end of the work.

April 25, 1916, Tuesday, Thirty-fifth day. CUB CAMP.—

Temp. —20.2° F.

At	10h.	47m.	P.M.	Sun	bears	319°30′
"	"	"	"	"	"	320
"	"	"	"	"	"	325°30′
"	"	"	"	"	"	318°30′
"	"	"	"	"	"	320
"	"	"	"	"	"	319°30′

The above bearings show that the compass needle between the Magnetic and North Poles is somewhat erratic. I had the same trouble when I was here before.

We arrived here after a long march of nine hours, to find our igloo smashed in and our things left here considerably scattered.

Papa bear has been home. Not finding the cubs, as I had them well hidden, and not getting any response from his spouse, he grabbed her by the hair of the head, dragged her out of the igloo, ate off both her hind legs and her belly, and left her a complete wreck behind an ice hummock, the cannibal! Mamma is not worth taking home, unless I decide to use her for dog harness.

If we can judge of papa's size by his feet, he is a monster! Let us hope that he will come home again to-night. He has probably

gone to Eureka Sound for a new wife. Fortunately, he did not peep into my bag, which contains a little of everything. He helped himself to all of our biscuit, however.

On the 26th we left the south shore of Amund Ringnes Island and headed across Hendrikson Sound for North Cornwall, reaching there at four-fifteen, I being the first white man to step upon the island for sixty years. Its northern, eastern, and much of its southern shores have never been visited by man. On August 30, 1852, Sir Edward Belcher, in his search for Sir John Franklin, landed from a boat on the southern shore, touching for a few hours only at two points.

There we found traces of wolves, musk-oxen, and hare, encouraging me to believe that the game-supply might enable me to round the whole island.

Upon the northern coast of this island there is a magnificent headland rising to a height of 1,200 feet. I named this McLeod Head after my good friend, Capt. Angus McLeod. Upon its summit my Eskimos constructed a cairn five feet high and four in circumference, for my record inclosed in a small bottle.

The view was magnificent. Three islands were discovered lying off the shore to the west and northwest; one of these we had passed coming over. In the southwest a large fiord could be plainly seen, in the center of which was a high island. Looking south over the land through the hills, the sea ice blended into the haze of the distance.

To explore this new land again I must have meat—troublesome food! What an amount of work a man could do if he didn't have to eat! One miserable hare was the result of three hours' hunting.

The morning of the 27th was memorable, made so

NEST OF EIDER DUCK

FOUR THOUSAND DELICIOUS FRESH EGGS OF THE EIDER DUCK

by a seemingly unimportant incident—a snow-bunting flying over our sledges. No one can ever appreciate our emotions as we watched that wavering flight and heard that glad song—a welcome message from southern lands, an announcement that the world still lives, that we are not forgotten, that the whiteness of the big hills will soon darken into beds of beautiful flowers, that the valley snows will quickly change to running waters, that the air will again resound with the whirring of wings and the laughter of happy Eskimo children, that our cracked, frost-bitten faces will feel once more the safe touch of warm southern winds. Your bluebird of spring is but dry prose in comparison with *kop-a-noo* (snow-bird), a beautiful poem.

Twenty miles due east in my running survey, and still no game. A bear track only, and this could not be eaten. The party must be divided. Arklio and E-took-a-shoo would cross to Cape Southwest of Axel Heiberg Land, and, if successful in their hunting, put meat in cache for the return of Noo-ka-ping-wa and myself from the southern shore of the island a few days later. That night our two sleeping-bags seemed very small on the large, wide, white bed. I missed the boys and was sorry to have them go.

It was not until two-thirty of the 29th that we were ready for bed. "If it takes E-took-a-shoo, Arklio, and Noo-ka-ping-wa one hour to build a snow house, and E-took-a-shoo works one and one-half faster than Arklio, and Arklio one-third as fast as Noo-ka-ping-wa, how long will it take Noo-ka-ping-wa?" I queried to myself, as I sawed out the snow blocks and tried to recall the algebra of my school-days. And I answered to myself: "I don't give a rap. No school to-morrow."

Just before closing our door, Noo-ka-ping-wa placed his rifle against the entrance, ready for a visitor. At four-thirty he or she arrived, the approach being heralded by a commotion among our dogs. Noo-ka-ping-wa slipped out of his sleeping-bag and ducked through the door, having on only a pair of drawers and socks. As he did so, the whole arch dropped on his bare back. At twenty below zero, this accelerated rather than retarded his scramble for his rifle. It afforded me, however, some amusement, and dropped the curtain for a good view of the scene of action. He squatted in the snow and pulled his automatic three times, leading me to believe that the bear was on the move. But this fear was immediately dispelled by his turning to me and yelling, "He's dead!" After he had come into the igloo I inquired why he had shot so many times, to which he replied: "We were both undressed. It was blowing and drifting, and I was afraid he would get away. So I thought I had better smash him all up."

On the 29th we arrived at a point on the southern shore of the island a short distance from Table and Exmouth Islands, passing along the shore between a newly discovered island and the mainland. The new island is but a half-mile distant, about two miles long and one-half mile wide.

Here on the southern shore, upon the summit of a hill one mile distant, I built a cairn and deposited a record.

Sunday, April 30th, was the fairest of days, enabling me to get ten good sights—for longitude, latitude, and azimuth. For the first time the thermometer registered above zero, being +8° F.

My dogs were in excellent condition, covering the

sixteen miles of the back trail in a little over three hours, trotting the whole distance.

On May 1st we killed another magnificent specimen of a polar bear. As I ran along by his side for a hundred yards or more, snapping my camera, I noticed a hitherto unrecorded fact—he was skiiing with his front feet on every slight descent, fairly gliding through space!

The remarks of my Eskimo boy are of interest: "He has a very large spleen. He has been to sleep. If the spleen is small, he is through sleeping. We always give some of this to the young dogs to make them good bear-dogs. The bears here are different from bears near home. There the dogs easily stop them. Here they seem to keep going. I think it is because of the wolves here."

Upon our arrival at Cape Southwest on the 2d we found evidence of a raid upon our old camp by the white wolves. The snow was covered with hair, the remains of musk-ox skins we had left here upon our advance. Sticking in the snow block over the igloo entrance were seventeen stubs of matches, which, translated into the Eskimo language, informed us that Arklio and E-took-a-shoo had killed as many hare. Failing to find larger game, they had gone on east as I had directed.

During the evening it began to snow, with the wind southeast, raising the temperature from five below zero to twenty-four above.

Here is the list of what two of us ate at that igloo, evidence that we were in good health: One pound of crackers, one-half pound of pemmican, the hearts and livers of four hare, four pounds of meat, one quart and a half of malted milk, and one cake of army chocolate.

At Cape Southwest we built another cairn and left a record of our visit in a chocolate-tin.

Remarks by Noo-ka-ping-wa: "The gyrfalcon is the swiftest bird in the North. It will overtake and capture even the ptarmigan, which is very fast. It also catches little auks, ducks, and even glaucous gulls. The owl must be very strong to catch and hold a large hare."

On the 5th we traveled east with a strong wind and drift, which continued right up to our igloo door. As we approached I said to myself, "Yes, there is the igloo with a pemmican-tin on top of it." To my astonishment, a few seconds later the tin became animated and dissolved into the laughing mouth and long black hair of Arklio. He had his head right up through the ventilating hole in the top of the snow house, watching us drive into town. All happy to be together again.

It needed something more than a strong wind, drift, and breaking crust to discourage us on our next day's march. We were homeward bound. A rapid run over the smooth ice of Ulve Fiord brought us to our old igloo at Bjornesundet, where another cairn and record were left.

We were now gradually turning night into day—that is, we were traveling while the sun was low in the north and sleeping while it was high in the south. It was absolutely necessary to wear our amber-colored glasses constantly. Snow-blindness and extreme suffering always follow a few hours' exposure to the reflected rays of the sun during the month of May. In April the sun is so low that the angle of incidence is small, and consequently the reflected rays are not in the least painful. Finally, in June the snow-fields have lost

much of their brightness by thawing into dark pools of water which are restful to the eyes.

On the 6th we faced a cold wind for eleven hours and a half, with fifty miles to our credit. As I watched those little legs reeling off mile after mile, my thoughts went back to that bright moonlight night in January, 1915—not a breath of wind and the ice as hard and smooth as a floor—when they trotted their full hundred! Only one dropped; the others finished with tails tightly curled, rubbed their heads against my legs, placed their paws against my breast, and wanted to be told that they had done their work and done it well. Magnificent animals! Faithful to the end of the long trail! How I miss them!

Another sign of spring at this camp, although only eight above zero—a live caterpillar! We take our tent out of a cache and pitch it for the first time on the trip. The joy of living in a tent after a season of snow houses!

Driving up Bay Fiord the next day, we found the hills fairly crawling with Arctic hare. With every hour the temptation to pot a few for supper grew stronger, until it could be resisted no longer. My, but hare meat is good! At the head of the fiord a large pile of meat assured us that our dogs would be in excellent condition for their climb over the glacier of Ellesmere Land. A day of rest here, on which the Eskimos played their first game of whist. The ladies of Etah this winter are possibly playing bridge.

Our first mile in two hours on the 10th was not at the rate of modern travel. The day is not far distant when the Demon of the North, so jealous of its secrets, will be robbed of one of his best weapons of defense—deep snows. The aeronaut may well laugh when he

sees those valleys and big white hills rolling back beneath him.

Thick fog compelled us to camp on the back of the glacier. The trail was lost; not a landmark could be seen Lost again on the 11th. We dared not go on for fear of going over the edge of the glacier. No one could sleep; all were as restless as myself. At the first ray of sun through the clouds, sledges were packed and we were off down the glacier and valley to the sea ice, where we found, in our old igloo, four bear and two musk-ox skins left by two of my men. Our sledges were now well loaded—fourteen bear and thirteen musk-ox skins.

At the water-hole, four seals furnished us with a change of diet. Seal meat is the Eskimo's turkey, his staple food; a seal's flipper is his entrée, and a seal's liver his ice-cream. We learned to like it; in fact we were never tired of it. I think our good health during the four years may be attributed to our abundance of fresh seal meat. And every spring, on the ice-floes off Newfoundland, at least two million pounds are left to rot!

On the 14th we pitched our tent on the ice in front of Greely's Starvation Camp of 1884. We could see a number of seals at their holes, and we secured one easily. How many times I have wished that one Etah Eskimo could have crossed Smith Sound to that camp of dying men! He might have saved the lives of the whole party.

Heading east, we heard the sound of waves beating against the edge of the ice. Stretching north as far as the eye could see was open water. Smith Sound had broken up! We knew, however, that somewhere to the north of us was the solid pack—a bridge to Greenland.

Back again toward Victoria Head we plodded, almost doubling on our tracks.

Looking ahead, I saw the boys running toward a black object on the ice, make a hasty examination, then mount a pressure ridge, sprint back to their sledges, and drive off like mad. In a few minutes there appeared in front of them a small white animal, which I thought must be a wolf. It proved to be a polar-bear cub weighing about forty pounds, which was captured and lashed to the sledge.

In about an hour Arklio jumped to his feet, standing upon his sledge, and declaring that he could see a dog off in the distance. Two teams were sighted, and I knew that Ak-kom-mo-ding-wa and Ak-pood-a-shah-o had not forgotten that I had requested them to leave home and come to me when the little auks arrived from the south. Living newspapers when met on the trail! We eagerly gathered around them to absorb every word:

"In-you-ta has been drowned. Capsized in his kayak, harpooning a narwhal. Line caught. He cut it and got out of the hole. He was found floating feet up. No, I don't know who is to have his wife.

"Toi-tee-a shot a boy at Kah-na. An accidental discharge of his rifle. The bullet entered the hip and passed up through the stomach and intestines.

"Panikpa and Koo-la-ting-wa shot one bear on their return. Ak-pood-a-shah-o and Ak-kom-mo-ding-wa got two." This makes us a total of twenty for our spring trip.

"Ka-ko-tchee-a and Kae-we-ark-sha have both shot caribou at Etah.

"Au-duck-a-shing-ya is married, thank goodness!

She punched the first man who came after her, but accepted the second."

Just before midnight of the 16th we drove into Etah. The long 1,200-mile trip was over. The dogs wagged their tails and uttered that bass growl of pleasure as I freed them of their well-worn harness. For them school was out; the long summer vacation had begun. For me a bath. Seventy soapless, washless days. Warm water and soap, comforts of civilization.

XIII

ALONE AT BORUP LODGE

SHORTLY after my departure for King Christian Island, Ekblaw had left for North Star Bay, planning to study all tide-water glaciers en route. I now found a letter awaiting me stating that he was at the sub-station, with the work accomplished. Doctor Hovey and Doctor Hunt would return to New York on the *George B. Cluett* upon her breaking out of the ice in July. Ekblaw would await the arrival of the new expected relief-ship which Doctor Hovey had requested the American Museum to send, in view of the refusal of Captain Pickles of the *Cluett* to proceed farther.

When I got back to Etah I led my bear into the house, through our big living-room, out into our workshop, and tethered him to the leg of the bench. I had not been out three minutes when Jot rushed excitedly from the front door, yelling: "For God's sake come in! He's tearing hell out of the house!"

Bursting into the back room, I found it a mess. The stove was turned around, the pipe was down. The floor was littered with cans, boxes, sledge runners, and clothing. Everything had been swept off the bench, and on top of it was Bowdoin, as I called him, tearing madly at the back window in a desperate effort to reach the

light. Whining with rage at being restrained by the rope around his neck, he rushed at me like a whirlwind, grabbing my leg and arm; but, clothed in skins as I was, he was not considered dangerous. When he discovered that his attacks were always met with a laugh and were not resisted, he would drop his head, protrude his upper lip, blow, and cry for all the world like a baby with the croup.

In a few days he followed me about like a dog, but he was almost too affectionate in his demonstrations, tripping me up repeatedly by rubbing his head against my legs. Each day he had his swim at the edge of the ice, and how he enjoyed it! Floating high and with long, easy stride, he fairly walked through the water, being much more at home in than out. He is rightly termed amphibious. The polar bear, called by sailors the water bear, has been reported swimming even 100 miles from land. He is also credited with the power of swimming with only the tip of his black muzzle visible above the surface. In this position it is possible for him successfully to stalk his staple food, the seal, sleeping or sunning on a pan of ice.

My little cub was ever a source of amusement; clean grit from his nose to the rudiments of his tail, he feared neither dog nor man, walking as deliberately and as unconcernedly through our settlement as he would alone on a distant ice-field. But let an unsuspecting, would-be-social pup get within reach of that short stubby fore paw tipped with steel hooks, then there was a blur in the air followed by a yelp of pain.

For hours he amused himself by climbing the snow slope to the end of his tether, turning around, and sliding down on his stomach with outstretched legs. He

grew and strengthened so rapidly that I harnessed him to my sledge. We went to ride very often, always going where he wanted, never where I did.

One morning he was gone. Once before I had found him free, sitting on top of his cage, looking wistfully out over the harbor ice to the blue stretch of open water beyond. Here shelter, comfort, and food, a life of indolence and ease; but out there that for which he was born—troubled waters, drifting pans, flying spray, a matching of his wits and his strength against the elements. I was glad the pen was empty.

Now began the third season of busy days, when one hated to go to bed, but wanted to work the clock around. The little auks (*Alle alle*) had arrived on time, May 15th, and were now swarming in millions on the talus slopes; and circling with them, hovering over them, and feeding on them the big glaucous gull, at this season a bird of prey.

The raven, with us always, worries his skeleton-like body through the dark, cold days of winter upon a real starvation diet, now and then dropping to the trail behind us for the refuse of the dogs. But upon the arrival of the dovekies and the ducks they also become predatory, pursuing and seizing the former in their beaks and eating the eggs of the latter. A raven often may be seen high in air, directing his course toward his nestlings on the cliff, with his lower bill driven through the shell of an egg.

The white and blue foxes are now at the height of their prosperity and happiness. Birds and eggs everywhere; delicious morsels following the patient nibbling of the frozen meat stolen from the caches of the Eskimos. The fox's mouth is apparently small, but when those

jaws are fully opened they are easily capable of taking in a full-sized duck's egg. One by one the nests are robbed, until the hole beneath the rocks is full to overflowing. The harvest is ended and winter is provided for.

On June 5th I noticed the first flower of spring, the purple saxifrage (*Saxifraga oppositifolia*). In two weeks mingling and contrasting with them would be that nomad of the North, the Arctic poppy (*Papaver radicatum*). It is found everywhere, even to the edge of the Polar Sea, and blossoming at that most northern point of all known lands, Cape Morris Jesup, 370 miles from the Pole. The arnica, the buttercup, the dandelion, and the daisy also came to us. There were fourteen different species within a few feet of our door.

By the middle of June water was running over the cliff and down through every valley. The temperature stood at thirty-nine above. The snowbirds (*Plectrophenax nivalis*) were building their nests. Summer had come. Eggs of the eider duck, the brant, and the glaucous gull were all found on the 16th. On the 25th, four thousand eggs were cached for our winter's use.

Weeks of most careful search over nearly every square foot of the big hills north of Etah failed to discover the very rare and consequently the very valuable eggs of the knot (*Tringa canutus*). Long hours, wet feet, and aching limbs were well repaid, however, by the discovery of the eggs of the European ring-necked plover (*Ægialitis hiaticula*), Baird's sandpiper (*Pisobia bairdi*), and the red phalarope (*Phalaropus fulicarius*).

I was highly elated to learn later, upon communication with Ekblaw at the sub-station, that Doctor Hunt had found two sets of the knot eggs at Umanak.

Photo by Ekblaw

THE RARE EGGS OF THE KNOT (TRINGA CANUTUS)

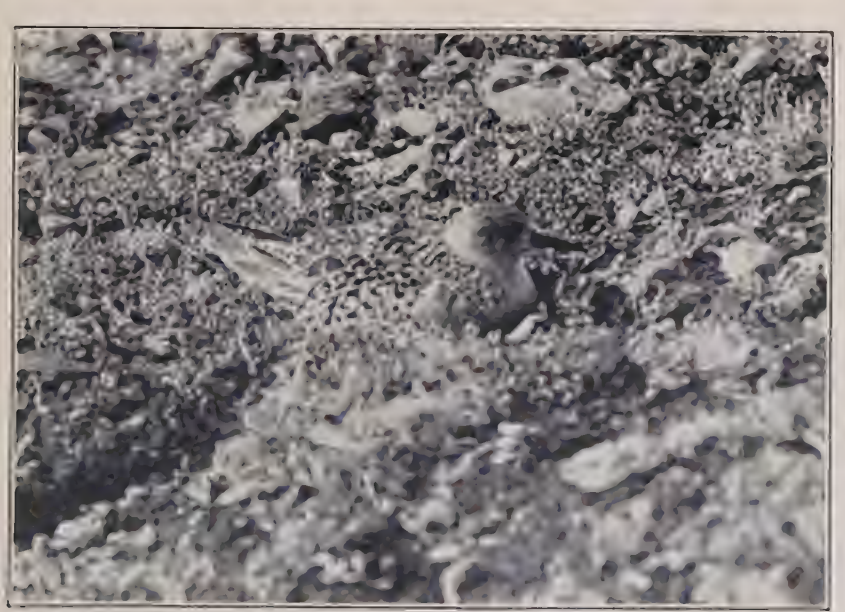


Photo by Ekblaw

THE KNOT UPON NEST

The colors of this bird are such that when sitting upon the nest it is almost impossible of detection.

Contrary to the general belief, this bird lays its eggs not near the shore, but well back among the hills. The color of the back so closely resembles that of the soil that the bird on its nest can only be detected with difficulty.

On July 5th, with a subconscious but a bit-delayed patriotic attitude toward the Glorious Fourth, which we had ushered in the day before with a rapid salute of our ten guns, We-we's three-year-old boy walked bravely by our front door with a large stick of dynamite in his mouth! This particular stick carefully secured and disposed of, the thought occurred to me that possibly the naturally curious-minded Eskimos might cook the dynamite in mistake for erbswurst, which it strongly resembled; therefore I removed the box with the loose cover to a safe distance around the bend of the cove, some 300 yards west of the house. Two days later a pup appeared at our front door with a stick in his mouth, wagging his tail and trying to tell me that he had found that which was lost. It was rather interesting trying to catch this playful animal, since he persisted in dropping his plaything every twenty yards or so in order to get a better grip on it with his teeth.

On July 21st, with my three favorite Eskimos—E-took-a-shoo, Arklio, and Ak-pood-a-shah-o—I left Etah in my twenty-one-foot dory for a bight below Sulwuddy we called Snug Harbor. The Arctic tern was supposed to breed here, and we wanted the eggs for our collection. A heavy squall off Cape Alexander compelled us to return for a camp at the Crystal Palace Cliffs. The next day we reached Sutherland Island without incident and found it to be the nesting-place of hundreds of eider ducks, gulls, and brant. A large flock of the latter was resting upon the surface of Snug

Harbor, which we reached a few hours later. Five shots were fired before it dawned upon us that these geese could not fly—they were molting their feathers. As tickled as school-boys, we drove the hissing birds before us over the hills, picking out the plumpest for our evening meal.

My field journal for the next day reads:

July 14th, Friday.—The devil took a holiday yesterday to plan for our destruction to-day. When sailing up from Snug Harbor with a good southerly breeze—well, I should have known that nothing good comes out of the South. We were led on, innocents as we were, to the end of the cape, and there we ran into trouble. Arklio was steering with boom on port side, wind almost east, running along near the shore. As we approached the point the wind hauled more southerly. We couldn't tack; we couldn't jibe; we couldn't lower the sail; for if we did, the boom would drop into the water and perhaps capsize the boat.

Fortunately, there were no shrouds on the dory, which enabled me to let out sheet enough to swing the boom well for'ard over the bow. In this way we managed to work around the cape and into a niche in the cliff, where we took in a double reef for the run to Etah, ten miles away. We hadn't left the place ten minutes when I realized that we were in for it. It blew so hard that the water was lifted in sheets and in whorls like dust in the street.

Heavily loaded, with only about a foot freeboard and with two kayaks in tow, naturally we shipped several seas. If we continued to do so, I had decided to throw overboard all our personal equipment and provisions, such as oil and biscuit.

Within fifteen minutes the lacing on the gaff broke and the peak of the sail slatted loose. In vain I tried to hoist the boom higher to prevent it catching in a sea and capsizing us. I realized that in lowering it and stopping headway there was danger of a sea rolling over the stern and filling the boat, but it had to be done. Telling the boys to keep headway with the oars, I quickly lowered it, repaired the lacing, and hoisted it again.

The water was now well up over the floor, and we were wet through and through with ice-water. There was such a heavy sea that twice we ran the *bow* of the dory under when riding before a sea. The two kayaks, lashed together, were jumping, twisting, pulling, and jerking. Time and time again riding on a sea, they ran their

noses into the stern of the boat. If they filled or capsized, it would have been necessary to cut them adrift.

When about half-way between the Crystal Palace Cliffs and Cape Kenrick, E-took-a-shoo's kayak filled. One hundred yards further Arklio's turned bottom up. Fortunately, here the sea was not heavy, which enabled me to work slowly deep into Pandora Harbor, where we are now trying to dry out. Our only loss is a pair of bearskin pants out of a kayak.

Since there was a large amount of water in our boat, our brant geese, which we had captured alive and were taking to Etah, were right in their element, but our nestlings, geese, ducks, and gulls, were actually drowned.

It was with a very secure feeling that we lay in our tent that night, listening to the roar of the wind over the top of the high hills bordering our retreat. A cessation of the wind enabled us to reach home in the morning without further incident.

From now on it was rush, rush, rush. Everything must be packed for transportation to New York. The relief-ship was expected at any minute, and then there was always the uncertainty of her arrival, prompting us to work night and day for eggs, birds, walrus, and seal for the following winter. Our natives killed and cached seventy-five walrus during July and August. One walrus had three tusks, exciting considerable curiosity and interest, as they had never seen one like it before.

On August 9th a large polar bear appeared, swimming across the harbor, an especially gratifying sight, since a few weeks previous, upon developing negatives of my spring trip, I discovered that many of them were light-struck, due to a small pinhole in the bellows of my 3 A. Mr. Bear came to Etah expressly to be photographed, and behaved exceedingly well. His perfect adaptation to his environment was well marked. He was a beautiful swimmer, both on the surface and below, and a most graceful diver, rolling his back out of

water exactly like a white whale, which, in fact, some of the natives at first thought it was. We could clearly see that he propelled himself with *all four legs*, a fact contrary to what has been recorded by other observers.

By surrounding him with kayaks, it was possible for us to drive him in any desired direction, even into the front door of our house, had we wished it. A mental picture of Jot going out the back door was a strong temptation for us to act upon the thought. A small berg, however, offered a better setting for such a noble animal. There, drawn up in a dignified manner, with his white body outlined against the black hills, he looked every inch of what he is, the king of the North.

A cry of "Boat coming!" on August 17th aroused me from a sound sleep. The expected big ship with a trail of black smoke dwindled to a white power-boat with an intermittent cough. Doctor Hovey had arrived again. With him were Captain Comer, Freuchen, and two Eskimos. For various reasons, Doctor Hovey, Captain Comer, Doctor Hunt, and Mr. Ekblaw had refused to embark on the *Cluett* when she sailed for home on the 29th of July. They were positive that another ship would be sent by the American Museum and preferred to await its arrival. Now, considerably worried over its non-appearance, they had come to Etah to inform me that it was their intention, if the ship had not arrived by August 20th, to proceed south across Melville Bay to Upernavik in the boat. Again there was only one decision for me to make—remain with the collections and the equipment until a ship arrived at Etah, or until I received definite orders from the American Museum to abandon everything. If I did not receive

instructions by the summer of 1917, I would sledge home by way of Ellesmere and Baffin Land and Hudson Bay.

Jot would have remained in a minute had I requested it. I advised him by all means to take advantage of this opportunity of reaching home. Once more I bade them good-by, and watched the white dot disappear beyond the outer islands. I was now alone with my Eskimos for an indefinite period. It was with a very strange feeling that I sat down in my room to listen to the stillness which pervaded the big house, but only for a moment. The happy laughter of an Eskimo child immediately dispelled all thoughts of lost opportunities. I could not be homesick surrounded by such people. And then again, the ship would come. It was early yet, only August 18th.

Preparations for home went on. Box after box was nailed and marked. One hundred and sixty were now ready. On August 23d the sun, which had been with us for 124 days, swung below the northern horizon, the first warning that winter was at hand. For the next sixty-two days the sun would rise and set as at home, and then would come the long sunless period of 118 days. On the night of the 25th the lamp was lighted, a real event in our simple life at Etah. How cheerful it looked in our smoke-begrimed room. Yes, the Arctic night is welcome!

By September 1st I had given up all hope of relief and began to rush my preparations for the winter. The back room was filled with wood, double windows were put on, the shed roof was entirely renewed. All holes in the house were patched, boat-loads of grass were obtained, boxes were unpacked, skins packed away, and

eight tons of coal brought from the point in the little punt. All was now secure.

The Arctic is ever ready with a surprise It seems to delight in turning white into bleak, to smash plans utterly, to drown hope with a flood of disappointment, and then again to whisk away darkness with a flood of sunshine.

On September 7th there was a faint putter—putter—putter heard far to the south. Could it be possible? Yes, it was Rasmussen's boat returning to Etah; the clumsy Danish model could not fail of recognition. Various reasons for her return were racing through my mind. With the aid of binoculars I could recognize Doctor Hovey, Captain Comer, Ekblaw, and Jot standing on the deck.

Their story can be told in a very few words The expected relief-ship had not arrived. The ice conditions below Umanak were so unfavorable that it was deemed imprudent to attempt the crossing of Melville Bay. Hovey, Comer, and Jot had returned to spend the winter with me at Borup Lodge. Ekblaw and Doctor Hunt would continue at our sub-station at Umanak until an opportunity presented itself of proceeding southward by mail-teams in December.

Rasmussen, in company with his assistant, Mr. Koch, a geologist, and Ekblaw, left Etah on the 9th to return to Umanak.

Once more the lodge seemed to awaken from its lethargy and take on an air of cheerfulness. We settled down for our fourth and last year, in many ways the happiest of them all. New faces, new stories, untried sources of information. Doctor Hovey never revealed his regret at having ventured into the North, nor his

AN ICE-COLD BATH HAS NO TERRORS WHATEVER FOR NANNOOK

HE VERY KINDLY ASCENDED THE BERG TO BE PHOTOGRAPHED

keen disappointment at the non-arrival of the second relief-ship. He was content to bide his time and look and hope for the best.

And equally philosophical was Capt. George Comer, a man of wide experience in both northern and southern waters. He was there, and why not make the best of it? His songs of the sea, which we heard daily, and his experiences in the Strait of Magellan, at Desolation Island and at Hudson Bay, often but not too often narrated, were a never-failing source of entertainment. Physically strong, energetic, and willing, he proved of great help to me in many ways during the year. He insisted upon being held responsible for certain duties at Etah, such as keeping our big tank well supplied with ice for drinking and wash water; taking all meteorological observations during the day, tidal observations during the spring, and other similar duties. All the work I assigned to him was dismissed completely from my mind. I knew it would be done faithfully and well.

During the darkening and shortening of the fall days we were busily occupied in securing meat for the winter—walrus, seal, ptarmigan, ducks, guillemots, and Arctic hare. We placed thermometers upon Thermometer Hill at an altitude of 1,100 feet, and visited them religiously every Sunday until darkness would no longer permit a reading. A line of soundings was carried throughout the length of Alida Lake, the greatest depth proving to be eighty-two and a half feet. To insure a good water-supply, four icebergs were moored to the beach in front of our door, to remain there until frozen in for the winter.

Clad in long-legged rubber boots and with long-handled dipper and net, Doctor Hovey could be seen

every day upon the shore, constantly adding to our zoological collection. The sea was teeming with life; especially evident during the evening, when the waters, if agitated, emitted a blaze of phosphorescent light. To our surprise, we found clams all along the shore, and we even discovered a species of cuttlefish at the head of the harbor.

With the formation of the harbor ice, which prevented zoological work, Doctor Hovey bravely attacked the installation of the seismograph, generously loaned to the expedition by Georgetown University. Although it was very different from that found at the American Museum, it was successfully assembled and operated throughout the year.

By October 10th our thermometers were registering zero weather. Sea ice had formed, offering us a hard, level sledging surface up and down the fiord, enabling the Eskimo women to set and attend their fox-traps.

On October 22d our Eskimos returned from the annual caribou-hunt throughout the region extending from Etah to the Humboldt Glacier. Forty-five skins were secured. Two facts of interest were reported—no young caribou whatever and tracks of wolves everywhere. This would indicate that a large band of white wolves had crossed Smith Sound from Ellesmere Land and were following the herds of caribou in Greenland, the young being the first to fall victims to the ravenous packs. A number of caribou were discovered sleeping on the ice in the center of lakes, probably for security against the attacks of wolves.

On November 23d two of our Eskimos left for Umanak with our mail, which was to go south with Hunt and Ekblaw on the December moon.

Many of our friends at home feared that we were starving, but this was the menu served upon our fourth Thanksgiving Day in the Arctic:

Vegetable soup
Roast haunch of caribou—Stuffing with brown gravy
Mashed potatoes String-beans
Chocolate frosted cake Fruit cake
Squash pie Mince pie
Doughnuts
Coffee Punch

After our own dinner, seventeen Eskimos were fed until they yelled, "Enough!" The stomach of little nine-year-old Megishoo stuck out hard and round as that of a young Filipino.

With the cry of, "Sledges coming!" on December 7th, came the surprise of the year. "A big ship frozen in the ice at Umanak!" We ripped off eagerly the envelopes of the letters from Ekblaw and Hunt to learn the particulars. The ship proved to be the *Danmark*, from Copenhagen, in charter by the American Museum to proceed to Etah from South Greenland to convey the members and collections of the expedition to Sydney, Cape Breton.

Because of the unfavorable ice conditions, due to the lateness of the season (September 23d), the ship had been unable to proceed beyond Umanak, and had gone into winter quarters. Through carelessness or misunderstanding, our notification of her arrival had been delayed by at least a month.

The relief naturally expected that upon receipt of the news of its arrival we would gladly abandon our

house for the more comfortable quarters of the ship, which was well provisioned for thirty men until November 1, 1917. Not a man entertained the slightest thought or wish of doing so. Borup Lodge, reinforced with its thick covering of snow blocks, was warm and comfortable, and well stocked with both food and fuel for a year.

Ekblaw and Hunt were both anxious to proceed southward by dog-team across Melville Bay, being very apprehensive as to the very small coal-supply on board ship, stating that in their opinion the *Danmark* would never reach Etah, and, if she did, the passage home would be long and tedious under sails alone.

When Ah-now-ka, our Eskimo boy, returned from his southern trip to Umanak with our mail, to my surprise he was accompanied by a sixteen-year-old wife. Eskimo marriages are generally the result of a prearrangement of the parents, when the future man and wife are but nursing babies in the hood. The motive undoubtedly is kinship and positive proof of the strong friendship between the two families. The early age of twelve, at which a girl is generally married, may be explained by the fact that as marriage is largely a matter of convenience—never of love—a man is in need of some one to make his home comfortable, to cook his food, to dress the skins, to sew his clothing, and to chew his boot soles.

It is a common practice among the Smith Sound Eskimos for a girl of nine and ten to have sexual intercourse; possibly the early marriage may be the design of the future husband to prevent this by claiming the girl as his own. Henceforth she is absolutely under the orders of her master, and is loaned and interchanged for favors received.

Although married at twelve, a girl is unable to bear children until she has attained the age of eighteen. I have known of but one exception to this statement. This may have been due to the fact that the mother revealed traces of an infusion of white blood.

It was the gossip of the tribe eight years before that Ah-now-ka was to wed the girl who had just arrived on his sledge. He had persistently declared, however, that he did not want her. To get some light on the matter, and not caring "to admit impediments to the marriage of true minds," I called the boy in and solemnized the union with the following colloquy:

"Do you want this girl, Ah-now-ka?"

"Yes, I would like to keep her if I may."

"All right. You may have my photographic dark-room."

This wedding present was not only accepted gratefully by the couple, who were "at home" every hour of the day, but by all in the village, who called at once to pay their respects and to see what I had in there.

As a sequel to the happy, or unhappy, event, we learned in a few weeks that the young lady was already married to a young man down the line and that Ah-now-ka had stolen her!

With the coming and going of the Eskimos, the measuring and photographing of the visitors, the taking of the fourth census of the Smith Sound tribe, the compiling of an Eskimo dictionary of 3,000 words, and the preparations for our long spring trip, the winter passed very rapidly. Now and then an incident of more than ordinary interest occurred, such as the visit of a white wolf or the swallowing of a galvanized-iron ring one inch and a tenth in diameter by little Megishoo. She was

playing "angekok"—causing the ring to disappear mysteriously. It did, very effectively.

On the morning of our fourth and last Christmas, we each found beneath our plate the only gift of the day—an English sovereign, presented by Doctor Hovey. It was appreciated and valued as a memento of our life in the far North; and could only be used in this way. In that country money loses its value and is consigned to the scrap-heap.

Roast venison, mashed potatoes, turnips, hot biscuits, coffee jelly, tapioca custard, fancy cakes, coffee, and cigars made up the list of good things set down before us at three in the afternoon.

We were astonished, as well as chagrined, to be informed, on the morning of January 8th, that there had been a total eclipse of the moon from one o'clock to four. The Eskimos were all awake and enjoying the phenomenon, while the white men were sound asleep, ignorant of the whole affair. We felt that the Eskimos had stolen a march on us.

Six sledges arrived on January 11th, bringing us news of Ekblaw's and Hunt's departure on December 15th, and also news of the great world war. We learned that Lord Kitchener and his staff had been drowned, that a big naval engagement had taken place off the coast of Denmark, that a German submarine had reached Baltimore, that von Moltke was dead, and that the United States had acquired, by purchase, the Danish West Indies, conceding to Denmark at this time the right to control all of Greenland. The last piece of news was of the highest interest to our Eskimos, hitherto free and independent, henceforth subject to the control of a foreign nation.

One letter was of especial interest. It was from Stefansson, the Canadian explorer. He had gone into the Arctic by way of the Pacific and Bering Strait; I by way of the Atlantic and Baffin Bay. Our trails crossed in the far North. He followed mine and came to our snow house on the southern shore of Ellef Ringnes Island, where he found and read my record.

His letter was written from the Bay of Mercy in Bank's Land, distant from Borup Lodge eight hundred miles. To reach me it had traveled more than ten thousand miles, almost in a complete circle, starting with dog-team for Canada and America, crossing the ocean to Denmark, thence to North Greenland, and to Etah by power-boat.

The report of a strange ship working northward through the ice near Tasiusak led to all kinds of conjectures as to her identity. According to the native report: "Her captain was in a glass house on deck. He pointed northward and said, 'Cape York.'" This led us to believe that the ship was an American yacht with a pilot-house. Since I have reached home I have learned that the unknown was Captain Bernier, the Canadian explorer, endeavoring to communicate with us at Etah with the possibility of effecting our release. With no reward or promise of reward, he had gone far out of his way to render what aid he could.

A chance remark by In-a-loo, one of the most intelligent in the tribe, was interesting.

"This land was at one time all under water."

"Why do you think so?" I inquired.

"There are clam-shells high up on the hills in many places, and I have seen north of Kab-loo-na-ding-me the bones of a large whale high up on the hill above the

water. This shows that at one time this was all sea bottom.

"This must have been before the time when there was only one man and one woman. It is strange where they came from, but this is what our fathers and grandfathers have told us. We can't put things down as you do on paper. What we learn is told to us by our elders, and then we tell others."

"Do you remember, In-a-loo, the white men who lived in a little house over at Kab-loo-na-ding-me when you were a little girl?" I inquired, referring to the *Polaris* Expedition of 1872.

"Yes," she said, "I remember it well. The ship was on the shore, but the men lived in a small wooden house, to which we often went and stayed for days at a time. One of the men was large and fat, and all had beards which they cut with scissors. When the men went away in two boats in the spring, many things were left on the shore and in the house. We found many books packed in boxes, and in them I first saw pictures; they frightened me so that I ran away. I remember a picture of a dog and of a man. One box was large, with a cover all of glass; this was full of books. The Eskimos broke this glass into pieces and used it as windows for their snow houses and igloos. The ship at this time was nearly full of ice. After the men went away she drifted off into deep water and sank just inside of Littleton Island.

"When a new ship (the relief-ship) came that summer, we were very much afraid. The white men said, 'Where is the ship?' We replied, 'She is there on the bottom.' They said, 'You are lying!' The ship anchored off the north end of Littleton Island. Twice it

OUR FOURTH AND LAST CHRISTMAS. ONLY TWO OF ORIGINAL PERSONNEL REMAINING. LEFT TO RIGHT: COMER, HOVEY, SMALL, MACMILLAN

steamed away toward Cape Sabine, but came back and anchored south of Cape Ohlsen. We told them where the white men's house was and they went there. We were all very much afraid because we had taken so many things. You see, our men wanted the wood for sledges. Some of the people were so afraid that they walked to Anoritok when they saw the ship coming back."

This is the Eskimo woman's account of the *Polaris* Expedition under the command of Capt. Charles Francis Hall on its retreat south in the fall of 1872, after an unsuccessful attempt to reach the Pole. The men who retreated south in two open boats in the spring were picked up in Melville Bay by the Scotch whaler *Ravenscraig*, and were returned home in various ships by way of Europe.

When hunting walrus with the Eskimos, they have often pointed out the location of the old *Polaris*, now resting upon the bottom.

On March 5th fifteen Eskimos arrived from the south. One of them brought a letter from Ekblaw, announcing his safe arrival at Upernavik, but in a crippled condition because of two badly frosted toes. He was very much in doubt about being able to reach Holsteinsborg in time for the steamer. If he should fail in doing this, then he planned to await the relief-ship at Godhavn, where we expected to call on our way south.

Everything was now in full swing for the departure both of Doctor Hovey and of myself; he to proceed across Melville Bay by dog-team to the ports in South Greenland, where he could embark on a steamer for Europe, and I for the exploration and survey of the stretch of coast between Cape Sabine and Clarence Head.

Doctor Hovey was apparently in the best of health, for he had been well clothed and well fed throughout the winter. He had religiously taken his one hour's exercise every day, regardless of the severity of the weather. Now that the sun was high and the seals were up on the ice, furnishing plenty of good fresh meat for dogs and man, there was no reason why he should not take the long trip in safety. Koo-la-ting-wa, one of the best dog-drivers in the North and a man in whom we had absolute faith, was secured by promises of a liberal reward for the important task. He selected as his assistants his own son, Ee-meen-ya and Tau-ching-wa. This southern division was fitted out with tea, biscuit, pemmican, and everything absolutely needed for the work. Hovey left Etah on March 24th, and reached New York the latter part of August, upon the very day that we arrived at Sydney, Cape Breton.

XIV

CAPE SABINE TO CLARENCE HEAD

AFTER three years' work in the Arctic, with Etah as our base, what was there left for us to do? The primary object of our expedition had been accomplished in 1914; Ekblaw had explored the Greely Fiord and Lake Hazen region in 1915; the region north of the Parry Islands had been covered in 1916. Running my eye over the map, ever searching for a blank spot or a dotted coast-line, I always returned to the Peary Channel as the most important bit of work to be done within the bounds of the meager resources left to us after 8,000 miles of sledge-work. The few remaining biscuit, pemmican, and sledge material had been carefully husbanded for future work against the non-arrival of the ship. My Eskimos were still faithful, and willing to go with me to the ends of the earth.

I had not forgotten the day when, on our way to the northern end of Greenland, we passed the mouth of that channel and saw its great white highway stretching into the east to merge into the distant sky-line. How I longed to turn my team and follow it to its end! But my plans to do so on the return came to naught.

To my disappointment, Rasmussen, in September, 1916, announced his intention of completing his work

in the Peary Channel which he had begun in 1912. The rules of Arctic work demanded that I sacrifice all in his favor, and look elsewhere for a rounding out of our four years' work.

Browsing among my Arctic books a few weeks later, the following quotation from a paper read by Sir Clements Markham before the Royal Geographical Society attracted my attention:

> Next to northern Greenland, the most interesting part of the unknown region is the land on the western side of the northern part of Baffin Bay, between Smith Sound and Jones Sound, and extending along the Jones Sound to the west and north. It was named Ellesmere Land by Sir Edward Inglefield, who saw it from the deck of the *Isabella* in 1852. It is called Oo-ming-man (the land of the musk-oxen) by the Eskimos. No one, so far as we know, has ever landed between Jones Sound and Smith Sound.

Since the above was written, Mr. H. G. Bryant, president of the Geographical Society of Philadelphia, had landed upon this coast at Cape Faraday and at Clarence Head, when in charge of the Peary Relief Expedition of 1892.

For three years, from the high hills surrounding Foulke Fiord, I had watched the sun rolling along over those snow-capped mountains to the west; had tried to penetrate with my glasses those deep fiords; and had followed the coast far to the south to the vanishing-point. I decided that this should be my fourth year's work—the exploration and survey of the Ellesmere Land coast from Cape Sabine to Clarence Head.

The stretch of coast-line, as laid down upon the latest maps, is quite inaccurate, due to the fact that the information was acquired from a ship's deck several miles from the shore. On account of the prevailing

WE CAN NEVER FORGET THE CLOUD EFFECTS OF THE MIDNIGHT SUN OVER CAPE SABINE

deep snows of spring, no one had attempted to pass from point to point with dog-team in the attempt to survey the coast. It was by far the most important task within our reach, and I decided to attempt it with the help of E-took-a-shoo, Arklio, and Ak-pood-a-shah-o. We still had biscuit, pemmican, and oil enough for the work. This could be supplemented, I hoped, with seal and polar bear killed on the trip.

Sunday, March 25, 1917, saw four heavily loaded sledges and forty-two dogs dashing out of Etah. Six hundred pounds on a 125-pound sledge, and a 180-pound man on top of that—a total of 905 pounds—was a heavy load for my ten dogs. They had been well fed, however, and were in excellent spirits, as their tightly curled, bushy tails showed. Rounding Sunrise Point, I pictured Doctor Hayes and his men, fifty-six years before, laboriously pulling their boats northward over the ice in search of an open Polar Sea. How persistent that belief was in the minds of scientific men!

Upon opening my precious four-year biscuit that night at "Kab-loo-na-ding-me," I discovered, to my dismay, a mass of mold, and immediately reproached myself for not making an examination during the winter. A hasty removal of the top layer disclosed, to my joy, that the remainder was edible, while very musty; yet in comparison with none at all, it was of priceless value.

At thirty-six below zero, the sledges dragged hard over young ice covered with an inch of granular snow. Sand could hardly have been worse. In 1914 we did in three hours what in 1917 we took a day and a half to accomplish. The Arctic is full of disappointments.

As we were drinking our tea at Ka-mowitz, a party of nine Eskimos drove past on their way to the musk-ox

grounds far to the west in Eureka Sound. They had nothing on their sledges but a few gallons of oil and several pieces of frozen meat—real explorers! Born in Greenland, they were now going back over the old migration trail of their ancestors of centuries ago. How they do like to travel, see new lands and strange things.

An incident in the crossing of Smith Sound the following day is an illustration of what often happens in Arctic work. We were about five miles from land and headed for Victoria Head when I halted my team to untangle the traces, a rather disagreeable task and one which it is necessary to perform about every hour or so, according to the condition of the ice. Arklio was about fifty yards in advance, and Ak-pood-a-shah-o not that distance in the rear. As I gathered the traces to ring them to the bridle, a gust of wind and a flurry of snow caused me to look up—my men were out of sight! Within a few minutes it was a blizzard; the drift so blinding that I could scarcely see the tails of my dogs. Urging them to greater speed and running behind the sledge, I endeavored to overtake my men. At the end of fifteen minutes, it was clearly evident that I had lost the trail and had passed my party, whether north or south I did not know.

Setting a course by the wind, I headed south for the open water which is always present between Littleton Island and Cape Sabine, intending to follow its edge west on the thin ice, as the quickest and most direct way to the western shore. A gleam of sun through the drift and a glance at my watch checked up my points of compass and acted as a guard against a sudden change of wind, a circumstance which has resulted

disastrously to many a man and many a ship in Baffin Bay, where the sluggish compass can hardly be trusted.

Broken and badly cracked thin ice forced me to the north, where I found such an attractive-looking snow-bank that I was tempted to burrow in for the night—a very comfortable home, when furnished with a good caribou sleeping-bag, a box of biscuit, a six-pound can of pemmican, a Primus stove, and plenty of oil; all these I had on my sledge. The thought, however, of my men arriving on the western shore ahead of me, and their consequent anxiety over my absence, spurred me on.

One incident of the day amused me. Through a rift in the drift about 200 yards away there appeared to be a number of dogs and sledges. The dogs were asleep; the sledges were partly buried in the snow. Where were the men? Standing upon my load, I yelled my loudest and vigorously waved both arms without detecting the slightest sign of movement. Upon a closer examination, the vision proved to be dirt-covered ice only a few yards away

At five o'clock in the afternoon I crossed the trail of six sledges going a little north of west—the sledges which had passed our camp the day before. The wind had now abated and there were evidences of clearing weather.

Within a half-hour black dots could be seen in the distance in addition to the faint outlines of two snow houses. Upon my arrival with clothes and sledge white with snow, amazement was depicted upon every countenance. Although they were only one hour ahead of me, they had experienced no wind or snow whatever. How they laughed upon learning that I had lost my men.

In the mean time, Arklio, E-took-a-shoo, and Ak-pood-

a-shah-o were quartering the ice of Smith Sound in search of me and my trail. There was no thought of desertion. One walked far to the north; another, south; and the third remained with the sledges on the trail, firing his rifle every few minutes to guide his companions back, and with the hope that I might hear it.

Ak-pood-a-shah-o reported my tracks far to the south, going west. They at once drove on, and arrived at our camp about seven in the evening.

On the morning of the 28th we awoke to the rustling of drift over and around our snow house A smother of snow! Dogs, sledges, houses, buried in drift! The thermometer was only five below zero and the wind southeast. We knew that such a storm might continue for days. E-took-a-shoo built a long snow entrance, terminating in a kind of storm-porch, thus keeping the drift away from the door.

I visited the snow houses of the musk-ox party, taking with me as a donation a six-pound can of pemmican, for which I received walrus and bear meat in return.

Checkers, cards, stories, and tobacco, with which I always provided the Eskimos, shortened many of those long hours of the 28th, 29th, and 30th. Signs of clearing weather at noon quickened our packing and our departure west, very happy to leave the middle of Smith Sound for the shelter of the big hills of Ellesmere Land.

Open water extending north of Cape Sabine compelled a détour well up into Buchanan Bay and a passage south by way of Rice Strait, in the middle of which we camped. Above our igloo on the summit of a knoll could be seen the cairn of Sverdrup of the *Fram* and the wooden cross in memory of his doctor, Svendson, who was buried here through a hole in the ice. Stretched along the

SUNSET OVER CAPE SABINE

GLACIER A FEW MILES NORTH OF CAPE YORK

shore was a cable, which was undoubtedly the mooring-line of the famous old ship of Nansen.

On reaching Cape Herschel, we were again blocked by open water, and we turned inland among the hills. Hitching twenty dogs to a sledge, we forced our teams through frozen gravel and stones, nearly ruining our steel runners.

About two miles southwest of this pass, I searched the land carefully for the remains of Greely's first camp on his famous retreat of 1883. His accurate description in *Three Years of Arctic Service* enabled me to recognize the exact location, and within a few minutes we found the crumbling walls of the three stone huts. Here Greely and his men landed, following their retreat of 270 miles from their headquarters in Lady Franklin Bay. Hoping against hope and with only thirty-five days' provisions, they began the construction of their huts. A few days later Rice returned from Cape Sabine, whither he had been sent in the hope of finding a cache of food left by the relief-ship of 1882. He had found the food and a note stating that the relief-ship of 1883 had been crushed and that the men had departed south in open boats. Greely decided at once to move his camp to the vicinity of the cache at Cape Sabine.

We were the first to examine the ruins of these houses since the departure of the ill-fated party in October, 1883. A removal of the snow in the interior revealed the stern of a large boat, with the ring-bolt intact, and the very section of the narwhal horn found and described by Greely.

April 1st presented us with a mixture of both good and bad luck. Cape Isabella was absolutely impassable. Exposed as it is to violent winds, swirling tides, and cur-

rents, it acts as a buttress against which great fields of drift ice come smashing and cracking over the ice-foot, raising a broken, chaotic mass sixty feet high. A view from the summit on the south side of the cape was not a bit encouraging—open water everywhere.

Years ago I had read that the British North Pole Expedition of 1875–76 had landed here and left a whaleboat, built a cairn, and deposited a record. I thoroughly examined every nook, cleft, and crevice in hopes of finding this forty-two-year-old boat. That night I learned from one of my boys that this boat had been found and taken away by the Eskimos many years ago.

Where were the cairn and records? Capt. Sir George Nares says, in his *Voyage to the Polar Sea:*

> Commander Markham landed in a small bay on the south side of the extreme point of the cape. After an extremely rough scramble up one of the gullies, a cairn was erected on the outer spur of Cape Isabella, 700 feet above the water-line, a cask for letters and a few cases of preserved meat being hidden away on a lower point, about 300 feet high, magnetic west of the cairn.

The gullies were filled with hard, compacted snow, rendering the ascent difficult and dangerous. Noting that my Eskimos lacked enthusiasm over the prospective journey, I sent them back to camp. In about an hour I reached the summit, and there I found the cairn. I rolled away stone after stone, removed the snow carefully, and examined the ground—not a trace of a record. I followed carefully the steps in the snowbank cut on the ascent to the ice-foot below.

"Now for the cask," thought I to myself as I headed west along the foot of the bluff. Climbing to the three-hundred-foot level, I scanned the rocks carefully, finally

locating a barrel with the head marked "Alert." Within the barrel was a copper tube containing two records written by Captain Nares, one of which read as follows:

Arctic Expedition
H.M.S. *Alert*

Her Majesty's ships *Alert* and *Discovery* here on their way south to Port Foulke. The *Alert* wintered in Latitude 82° 27′ N., Longitude 61° 22′ W., inside grounded ice. The *Discovery* wintered in a sheltered harbor in Latitude 81° 44′ N., Longitude 65° 30′ W.

The sledge crews of the *Alert*, after a severe journey over the ice, succeeded in attaining Latitude 83° 30′ N., and the coast-line from the winter quarters of the *Alert* to the northward and westward was explored to Latitude 82° 23′ N., Longitude 84° 26′ W., Cape Columbia, the northernmost cape, being in Latitude 83° 7′ N., Longitude 70° 30′ W.

Sledge parties from the *Discovery* explored the north coast of Greenland to Lat. 82° 21′ N., Long. 52° W. (approximately), a distance of 70 miles beyond Repulse Harbor.

No land was sighted to the northward of the above explorations except a few small islands at the extreme of the Greenland coast explored.

Lady Franklin Sound was explored by the *Discovery* and was found to run S. W. 65 miles, and terminated in two small bays; also Peterman's Fiord for 19 miles, and was then found to be impassable for sledges, owing to glacier ice.

A seam of coal 25 yards long, 22 feet thick, was found in the neighborhood of the *Discovery's* Winter Quarters.

Employed in sledge traveling. Four deaths have occurred:

Neils C. Peterson, Interpreter, at winter quarters on the 14th May, from the effects of a severe frost bite (which necessitated a part of each foot being amputated) followed by exhaustion and scorbutic taint.

H.M.S. *Alert.*—George Porter, Gunner, R.N. on the 8th June of scurvy and general debility, when absent on a sledge journey, and was buried in the floe in Lat. 82° 41′ N.

H.M.S. *Discovery.*—James I. Hand, A.B. of scurvy on the 13th June and Charles W. Paul, A.B. of scurvy on the 29th of June; both buried in Polaris Bay.

The ice in the Polar Sea broke up on the 20th day of July, and on the 31st the *Alert* left her Winter Quarters, and on the 12th of August

joined the *Discovery*. Both ships left "Discovery Bay" on the 20th day of August and proceeded south.

All well.

We are homeward bound with very little ice in sight. We shall call at Disco, but not at Littleton Island or Port Foulke.

G. S. Nares,
Captain R.N.
Commanding Arctic Expedition.

In the afternoon I returned to the locality for a further examination, taking my Eskimo boys with me. Nothing could escape their sharp eyes. Within a few minutes following our arrival E-took-a-shoo dug out of the snow a tin wrapped in heavy sail-cloth containing two letters for Captain Nares and one for Captain Stephenson.

Pandora, *August 24th midnight 1876.*

Dear Captain Nares:—

On our previous visit here—Aug. 6th, 1876—we were blown off by a gale and drift ice, and have ever since that date been attempting to regain the cape; a solid pack of drift ice extending from Cape Dunsterville on the west shore to Cairn Point on the east shore preventing our reaching within 10 miles of Cape Isabella.

I have tried to get northward, but have not been able to reach beyond Cape Paterson on this side, or Latitude 78° 45′ on the east side.

On August 6th our landing party were unable to examine the packages, and we were thus in doubt as to whether they were your dispatches or some of your provisions, and hence my attempts to regain the cape.

Failing in our repeated attempts to regain the cape, and seeing no prospect of our doing so this season, I landed the bulk of your letters and dispatches on the lower point N. N. E. (mag.) from your cairn on Littleton Island and where I hope they will be even more accessible to you than on this cape.

After a heavy southerly gale yesterday, we have succeeded in getting through the S. W. pack, and if I succeed in getting back into clear water, I proceed homewards at the end of this month, having cruised here all the navigable season in the event of your sending a boat party to Littleton Island.

Trusting that you are all well and have succeeded in your arduous work, Yours truly,

ALLEN YOUNG.

Landed at 1 A. M. August 25, and on examination found the cask to be empty and the cans to contain preserved meat. They will be left as they were found.

It is evident no sledge party has visited this place.

CHARLES W. ARBUTHNOT.

An interesting letter, showing as it does that Captain Nares had been here, had stood within twenty feet of his mail, and had failed to find it.

I now decided to return to Etah, and, if Rasmussen had not arrived on his way northward, I would then attempt the exploration of the Peary Channel.

On the return we swung up into Baird Inlet for a survey of its unexplored shores. The inner reaches of this fiord were so deep in snow that our dogs wallowed up to their necks. We had left our snow-shoes at the mouth of the inlet, so we found it impossible to leave the sledges and thus help out the dogs. We had no tent and the snow was not suitable for building purposes. For a time it seemed likely that we were to sleep in the open with our backs against our sledges. Finally Ark-pood-a-shah-o discovered a mass of snow somewhat different in its appearance from its surroundings; this he declared to be an avalanche of snow, which had shot down from the cliffs above with such force that the concussion had solidified it into excellent building material.

The shores of this inlet consist of a series of beautiful glaciers, many of which I named after my fellow-workers, Ekblaw, Tanquary, Green, Allen, Hunt, and Small. Those on the north side seemed fairly to tumble from the snow-covered heights above in their eagerness to

reach the sea. At the extreme head, a glacier recedes in a gentle incline straight into the west to lose its outlines in the blue of the sky. What a magnificent highway! And how I longed for time to go on and up and over and down into that western musk-ox country!

Picking up our loads at the mouth of the inlet, we headed north for the pass through the hills of Cape Herschel. As the dogs, dragging their heavy loads, started up the slope with ease, I thought of Rice, Frederick, and Lynn of the Greely party, trying in vain to drag their frozen companion, Elison, up over the hill on November 10, 1883. Here they camped in a northerly gale, with the temperature at twenty-two below zero, while Rice hurried on to Camp Clay for help.

> Not only were Elison's hands and feet frozen, but his face was frozen to such an extent that there was but little semblance of humanity in the poor fellow as he was dragged through the narrow door of our wretched hut that November night. He begged piteously for death the first week.—Greely.

It seems fitting that this pass should be known as the Elison Pass, in memory of the man who suffered so heroically for months to come, and who was courageous to the last.

On Friday, April 6th, North Pole Day, we camped in Peary's old hut at Cape Sabine. With a heavy wind and drift, and the thermometer at sixteen below, we soon despaired of ever making it a home, even with three Primus stoves going full blast. There was far more prospect of comfort in walking than in accepting the hospitality of such a shack. I visited and photographed the English cairn of 1875 on Brevoort Island.

Here the first information of the whereabouts of the Greely party was found by Lieutenant Taunt. Returning, I called at Stalknecht Island to search for the cairn in which Lieutenant Harlow also found a record. How thrilled those men on the *Thetis* must have been upon observing the signal: "Have found Greely's records; send five men"! And with what emotion those records were read in the ward-room! And with what anxiety Schley signaled full speed ahead upon learning that "the latest date borne by any of them was October 21, 1883, and that but forty days' complete rations were left to live upon"! Historic ground? Yes, everywhere!

The following morning we rounded the cape and sledged up the coast of Bedford Pim Island to the Starvation Camp of Greely. Thirty-three years before the *Bear* and the *Thetis*, under the command of Captain Schley, had steamed along the same coast. Outlined against the sky stood a man feebly waving a flag. As the steam-launch reached the beach, the man stumbled and fell, rose to his feet, and fell again. Finally, he clutched the bow of the boat. Seven were left out of twenty-five.

I walked to the crest of Cemetery Ridge, and there the whole picture presented itself as vividly portrayed by Greely and Schley. Below me on the flat stretch was the frozen lake from which the party obtained water, and just beyond, projecting above the snow, were the outlines of the rock hut. At my right, in the lee of a ledge, I could plainly see the ring of rocks which held down the tent of the dying men.

In 1909 I visited the headquarters of this expedition at Lady Franklin Bay, in 81° 44′ N. The house and

grounds were littered with equipment and personal belongings. Upon the page of an almost blank notebook there were three lines:

> Past, Present, and Future.
> Dost thou remember long, long ago
> Those school-days which we loved so well?

Some one of the party, longing for the homeland, had planned to write something of his past life, of his present, and of his future. Only two lines of his past!

Finding a school-book, I turned back the cover and read on the fly-leaf:

> To my dear father. From his affectionate son, Harry Kislingbury. May God be with you and return you safely to us.

The little fellow's prayer was not answered. His father, Lieutenant Kislingbury, was the twelfth to die.

We arrived at Etah on the 9th. Rasmussen arrived on the 10th. To my astonishment, although about to undertake a 1,000-mile trip to the northern end of Greenland and return, he had practically no oil, very little biscuit, and no pemmican. His plan to live chiefly on the country and cook with willow roots entailed so much suffering and danger that I finally persuaded him to outfit from our stores. Thirty gallons of oil, 100 pounds of biscuit, and 200 of pemmican could be well spared to a man who had aided us in so many ways.

A lack, however, of an indispensable part of an Arctic man's equipment—snow-shoes—has caused me serious apprehensions as to the safe return of all of his party. It was his plan to follow the coast northward by way of Kane Basin, Kennedy and Robeson Channel, with the

THE REMAINS OF THE GREELY STARVATION HUT AT CAMP SABINE

PEARY'S OLD HUT AT CAPE SABINE

Headquarters of 1900–02 North Pole Expedition.

Peary Channel and Cape Morris Jesup as his objective point, returning over the ice-cap to Etah August 1st. His party consisted of two white men: Koch, geologist, and Wulff, botanist, and also four Eskimos. He failed to return; and at the present writing no tidings whatever have been received.[1]

With the departure of the Rasmussen party on April 15th I decided to attempt again what I had just failed in doing—a survey of the eastern coast of Ellesmere Land from Cape Sabine to Clarence Head.

Within a few weeks seals would be plentiful as food for our dogs, and possibly the sea ice would be solid and stationary around Capes Sabine, Herschel, and Isabella.

On Thursday, May 3d, we were off again for Cape Sabine, where we arrived May 6th, having encountered another driving snowstorm on Smith Sound. To meet my men two days later after they had been feeding upon three-year-old narwhal meat was a far more severe test of physical endurance. Great Cæsar! what a stench! It persisted in keeping us company for miles and miles.

The ice at Cape Herschel was unchanged. Again the Elison Pass; and again ruined runners, demanding hours of hard work with emery-paper to restore them to their former bright and smooth condition.

Quoting from my field journal of May 9, 1917:

> One below zero at eight o'clock. . . . We are in camp to-night on south side of Cape Isabella, a point I have wanted to reach for

[1] The Rasmussen party has been reported by cable to have reached Etah late in the summer of 1917 in a starving condition, and with the loss of Doctor Wulff, the botanist, and Hendrik Olsen, a half-breed South-Greenland dog-driver.—EDITOR.

some months. From now on it is new country, only two points of which a man has touched, namely Cape Faraday and Clarence Head.

Owing to the late storm, the going is now good. Fortunately, our loads are light or we should not have reached this point. Open water around end of cape; therefore we ascended over the Wyville Thompson Glacier. The perspiration ran down our bodies in streams; and what a time coming down! A shoot the chute, a loop the loop, and an aerial railway all in one! It was certainly exciting; I felt like going back and trying it over again.

Arklio was ahead and knew where he was going. I didn't! Seeing him disappear around a sharp turn with his dogs in tow, I whipped my dogs to the rear, seized the handle-bars, and followed. There is a law of falling bodies which runs: "Sixteen feet the first second, thirty-two the next, etc., etc." It was not many seconds before I was in the etc., etc., and still going somewhere. As I shot around the corner with all my brakes on and wheel hard astarboard, I saw Arklio crawling out of a snowbank at the foot of the slope. Would I clear him or strike him, was my first thought? In spite of every effort, the sledge slewed around broadside on, and away she went over and over so rapidly that, although my sledge-bag and biscuit-tin were open, not a thing came out! I looped only once!

Chuckling a bit, I confess, we quickly cleared the wreck from the track for the two unsuspecting express trains which we knew were to follow at any moment. Around they came, one following the other closely. Braced back to the limit, with his sturdy short legs plowing a furrow, and the southernmost part of his body almost dragging the ground, E-took-a-shoo was a picture of activity and energy. If anything happened, he was a "gonner"; he would surely have been spitted by the rapidly following sledge.

His grip, his eye, his judgment, his muscles—all had been trained by generations of such experiences, and down he sailed like a bird, as did the man behind him.

Nestling among the hills, there were two frozen lakes, one of which was perhaps a half-mile long and a quarter-mile wide; the other nearly circular and about 300 yards in diameter.

Reaching the shore by a descent of the outlet bed, we discovered the remains of a sledge belonging to one

of a party of bear-hunters three years before. They failed to find game, and they were, as a result, in very straitened circumstances. Nearly all of their dogs died of starvation, and their masters only reached Etah after experiencing considerable hardships.

In front of our camp, the ice was all in motion and intersected by large cracks. To drive out on its surface would simply invite disaster. To drive back again to the lakes and descend to the shore by a pass farther west was our only alternative.

When we reached Paget Point we were again driven inland by open water, and pitched our tent well up into Cadogan Inlet, hitherto unexplored and unsurveyed. Its shores consist of a succession of glaciers flowing from the ice-cap above through every outlet to the sea; very different from what is depicted on our latest maps. In fact, this whole western land seemed to be buried beneath a heavy mantle of snow and ice and to be at least ten degrees colder than our temperatures at Etah. At this camp on May 10th, our thermometer registered fourteen below zero. This difference in temperature and in depth of snow and ice between the opposite sides of Smith Sound, one uninhabitable and the other an Arctic oasis, is undoubtedly due to the fact that on the east side we have a northward flowing current of water and a downward and outward current of air, which is heated adiabatically in its descent from a 10,000-foot altitude. On the western side, we find hugging the shore the Arctic pack, flowing southward from the Polar Sea down through Kennedy Channel, Robeson Channel, and Smith Sound; and comparatively no, or very little, wind, as is evidenced by the large amount of deep, soft snow in the fiords.

On Friday, May 11th, we crossed over the summit of the big Sparks Glacier. To my surprise, although the temperature was twenty-two below zero, near the sea ice on the southern side there was a spouting stream of water issuing from a crevice. Freezing as it fell, it looked like a composite picture of a geyser of Yellowstone Park and a winter scene at Niagara Falls.

As I was descending the glacier, I noted the existence of an unmapped island embedded in the sea ice two miles from shore and about two miles south of Paget Point. To my inquiry, the Eskimo boys replied that it was an island; that they had often camped upon it when bear-hunting; and that in size it was about that of Littleton Island near Etah, which would make it a mile long and a half-mile wide. This I have named Orne Island.

How often in the North I have blessed the man of centuries ago who devised the snow-shoe. It is the only part of one's equipment for which one feels a real affection. To strap on a pair of snow-shoes and stride off over the surface through which a man has been wallowing laboriously for hours must be very similar to the sensation experienced by a spent swimmer who reaches for and clutches a life-preserver. Think of the gritty Englishmen of the British Expedition of 1875–76 plodding day after day through snow thigh-deep along the northern shore of Grant Land, until, finally, physically exhausted by their efforts, they resorted to standing pulls and the count, "One—two—three—pull!" One step at a time! And remember Beaumont and his men from the *Discovery* crawling on hands and knees through deep snows across the Keltie Gulf? They were men! But, unfortunately, men who knew nothing of the Indian snow-shoe.

Our shoe was the Tubbs shoe from Norway, Maine, forty-eight by twelve, beautifully made and well adapted for dog-team work and the compact, wind-blown snows of the Arctic. For this shore, however, a wider shoe would have been preferable. From Paget Point to Clarence Head and back, snow-shoes made our work possible. After our experiences there, I can readily understand why this stretch of coast has never been surveyed.

On the 11th we pitched our tent upon the ice-foot of Look headland which resembled, from a few miles north, a magnificent high island, which proved upon an examination to be connected with the mainland by a flat, narrow neck. Our sledges were no sooner unpacked than Arklio, from the summit of a high rock, descried a polar bear one mile to the south. The fun was on, and away they went chatting like boys out of school. Three hours later, E-took-a-shoo came galloping in astride of the bear. The bear was dead, however, and lashed to his sledge. This was one of the days when we sat up for twenty-four hours, as we often did in order to get a series of midnight-sun pictures, also sights for longitude, latitude, and compass variation.

As we left this camp and drove south, I noticed what appeared to be an enormous glacier stretching almost to Cape Faraday. A closer examination later proved this glacier to be at least twenty miles along its face, the second largest in size in the whole Smith Sound region. This I have named the American Museum Glacier. The surface of the ice was a perfect network of bear tracks. Our dogs, with tails tightly curled and short, quick yelps, led us on and along the face of this glacier for four hours in pursuit of a bear. Far ahead I could see Arklio vigorously pumping both arms, which, translated from the

sign language, informed me that *nanook* (bear) was in sight. E-took-a-shoo and I snapped our whips and yelled ourselves hoarse in our endeavors to stimulate our dogs to greater effort and be in at the death. Dashing through a mass of rough ice, I came suddenly upon Arklio peering into a pool of water. In reply to my look of amazement, he grinned and began pulling in on his harpoon line. Up popped the head of the bear—dead!

This incident clearly reveals the amphibious nature of the "tiger of the north." More at home in the water than on the ice-fields, he preferred to wage battle in the water against these strange, yelping animals rather than take his stand on a berg, as I have so often seen them do. His plan for defense was far more effective against the dog than against a Winchester rifle. It is interesting to note that Arklio had the forethought to harpoon first in order to make sure of his quarry; a polar bear sometimes sinks when shot.

At this camp I obtained, at the edge of the glacier, with a transit, a double round of sights from a measured base line of 2,000 feet; also obtained observations for compass variation and photographs of all the land south. The water at the face of the glacier, which was resting on the bottom, proved to be seventy-seven feet deep.

On the 15th of May we passed Cape Faraday and the mouth of Talbot Inlet, and camped at Boger Point *on top of a flat berg* in our determination to find something solid beneath our feet. Covered with perspiration and breathing heavily, we sat on our sledges chagrined. Our dogs with lolling tongues could not yet understand why, with a mother bear and two cubs running along

SLEDGING ON THE ICE-FOOT IN THE LATE SPRING

THERE ARE MANY DANGEROUS CORNERS ON A NARROW ICE-FOOT WHICH DEMAND MOST CAREFUL WORK TO PREVENT A DROP INTO THE SEA

in front of our sledges for more than a mile, we had not fed them steaks and tenderloins. Nor did we! I had never known it to happen before. A bear in the bush is equal to a bear in the hand. "Well, Ak-pood-a-shah-o might get them yet," I thought; but as I watched his tired dogs crawling at a snail's pace through that ocean of fluffy snow I decided that Mrs. Bear need have no anxiety over her family.

For some time E-took-a-shoo, with a worried look on his fat face, as if he doubted his sanity, persisted in the refrain of, "Why didn't I shoot?" to which I just as persistently replied, in a very minor key, "Yes, why didn't you shoot?" Four big men, four big rifles, forty active dogs! One mother bear, two little bears—and no meat! No, they wouldn't tell that next winter when they narrated deeds of valor and tales of prowess in the darkened igloos at Etah.

Arklio, with a "give-me-another-chance" movement, snatched my binoculars out of their leather case and swept the ice-fields. In a few minutes an excited "*T-coo! Ping-a-soo-ne!*" ("Look! Three!") announced the discovery of another family out for a stroll. Arklio had loaned his dogs to Ak-pood-a-shah-o, who was still in pursuit of the first bear. He looked at my dogs, then at the bears. To his implied request, I assented at once with a "Yes, go ahead. See what you can do."

After the boys had gone, I strapped on my snowshoes and visited the big glaciers at the head of the bay, taking careful sights and a panoramic view of the whole coast from Cape Faraday on the north to Clarence Head in the southeast. The coast, buried in snow and ice and outlines gone, is so very different from what is charted that points named sixty-seven years ago by

Inglefield were identified only with difficulty. On our latest map, "Polar Regions, Baffin Bay to Lincoln Sea," issued by the Navy Department on February 21, 1911, there are nine tidewater glaciers from Cape Sabine to Clarence Head. I counted, photographed, and mapped forty-two—one, the American Museum Glacier, being at least twenty miles along its face.

The whole coast-line of Boger Point is a vast Piedmont Glacier with some ten or a dozen feeders flowing from the interior of a rugged-looking country crowned with the Thorndike Peaks, which are two thousand feet in height. This glacier I have named in honor of the American Geographical Society.

From our camp at Boger Point, it was but a few miles across to Clarence Head, lying more in an easterly direction than it is delineated by the latest maps. With my glasses, my men could be plainly seen well beyond Cape Combermere, skinning a bear on the shore. Boger Point is in error in latitude, as is nearly every point on the coast.

Sonders Island does not exist as an island. There is a nunatak about in that position, which, years ago, before the advance of the glacier, might have been an island. At present it is entirely surrounded by ice. Clarence Head is out of position relatively. Inside of Clarence Head the land is low and covered with large glaciers, receding until lost in the distance toward the northern shores of Jones Sound. Here was a tempting white highway. Prevailing deep snows and lateness of the season precluded an advance south from this point.

On my return, I discovered that the three dogs which had been left at camp were loose and looking like animated balloons. They had cleaned up our commissary

department in an efficient manner. My dog, I vowed, I would not feed for a week, seeing that she was apparently provisioned for a month.

Arklio soon arrived with the meat and skin of a cub, reporting that E-took-a-shoo had eaten raw meat rather heartily and had dropped to sleep en route on his sledge and might not be in until to-morrow. I hoped that his dogs would not turn and eat all the meat out from under him. He arrived in about two hours with everything intact, followed by the third Eskimo with nothing but two highly inflamed eyes; in his rush to get away he had forgotten his snow-glasses. On the 16th we started back, swinging well up into Talbot Inlet, which we found to be one of the most striking bits of scenery on the coast. The fiord, some eight miles in length, is bordered by hills at least 1,000 feet in height, intersected with large and many glaciers. A heavy wind and strong drift prevented an extensive survey; what we saw was fairly wild in its appearance. My boys informed me that there were many tales and traditions relating to this very place, for they recognized many points from tales that they had heard as children. One mile from the mouth, a castle-like island rises abruptly out of the sea ice. How I longed to see this in the summer-time!

At Cape Faraday we stopped our sledge and made a minute examination of every square foot of the shore in hopes of finding the cairn and record left in 1894 by H. G. Bryant, president of the Geographical Society of Philadelphia. He later told me in New York that his record was left on *top* of the cape, which explains our failure to find it.

May 18th was memorable, for on that day we heard the note of the first glaucous gull of the season. We

watched intently that beautiful white body gliding along the face of the cliff. Summer had come, although our temperature was zero.

Our return trip found conditions unchanged—open water at the tips of all the capes. Paget Point, called by the natives Nook-suah (Big Point), is ice-capped, and sends glaciers between massive headlands to the sea. It took four hours to cross this from shore to shore, deep snows necessitating snow-shoes throughout the passage.

Gale Point, at the northern entrance to Cadogan Inlet, is marked by a beautiful buff-and-brown sandstone cliff. A half-hour here enabled the boys to select several especially fine-grained whetstones, a valuable acquisition, seeing that sharp knives are in constant demand for their daily routine of work.

Once more we toiled up the heights of Cape Isabella and rested our dogs on the very summit with the smooth dome of Mt. Bolton at our backs. Perfect weather revealed the distant, but familiar, shores of Greenland stretching north and south until lost in the blue haze. Cape Isabella, the Crystal Palace Cliffs, Foulke Fiord, could all be easily identified. It seemed but a step to the door of Borup Lodge, which I knew to be there with its veil of smoke issuing from the chimney.

Open water everywhere! To the uninitiated, a crossing was absolutely impossible. But we well knew that far to the north, well within Kane Basin, there was an icy bridge awaiting us.

A run down the north side of Isabella brought us to our selected camping-place upon the very spot used by migrating Eskimos centuries before. A circle of lichen-covered tent stones, rolled back by hands of Eskimos

RELIEF-SHIP "NEPTUNE" IN BAFFIN BAY

RELIEF-SHIP "NEPTUNE" AT ANCHOR IN ETAH HARBOR

long dead, were again rolled into place on the ground flap of our shelter.

Our next camp was at Cape Herschel, that I might examine and search for the cairn and record left by A. P. Low of the Dominion Government Expedition. Here Mr. Low landed and took formal possession of Ellesmere Land in August, 1904. The cairn was demolished and the record gone.

My diary reads:

Wednesday, May 23, 1917, Smith Sound.—Open water at Cape Sabine gave us some hard and also dangerous work, because a slip or a snowslide meant a cold salt-water bath following a bad fall. There were two dangerous points, owing to the vertical cliffs, narrow ice-foot, and large, sloping snowbank. Here very cautious work was imperative. By cutting a furrow for one runner and using ropes, we got by safely.

Rounding Cape Sabine with six seals in sight looked like the promised land. It was not long before we had two of them into our dogs.

4.15.—A gale from the south with drift and snow. Will the tent hold? My boots and mittens are within reach if it decides to leave us. If it were not for our seven guy-ropes in addition to eight fastenings through holes in the ice, it would have gone into the air long ago.

The Eskimos, sleeping on their sledges, are a mass of drifted snow. I can hear a smothered yell now and then asking about the weather.

7.30.—Signs of clearing.

At 2.30 on the morning of the 24th we reached land in a smother of snow. Old Smith Sound gave us a savage parting as we left her for the last time—the tenth trip across the ice. Ak-pood-a-shah-o declared that the God of the Sea had his eye upon us. "Yes, and something more," added E-took-a-shoo.

XV

THE ARRIVAL OF THE *NEPTUNE*

AFTER four years, we felt that a ship must surely come. Twice the Museum had failed to effect our release by employing ships unsuited for the work. And now, certainly, the very best would be obtained and placed in command of Peary or Bartlett. We feared, however, that the *Danmark*, the relief-ship of 1916, in winter quarters at Umanak, 120 miles south, would arrive and rescue the party before Peary or Bartlett could work his ship through the ice of Melville Bay. A letter from Captain Hanson of the *Danmark* requested that everything be ready for embarkation on August 1st, the date on which he expected to arrive.

Our well-worn boxes and many-times-handled skins were now packed for the third time, a work generally done on days unfavorable for photographing, bird and egg-collecting, walrus, narwhal, and seal-hunting. The very important work of meat-getting must go on and take precedence of all other duties. There was always the possibility of the loss of the ship or a failure to penetrate the immense ice-fields to the south; consequently another year of enforced stay in the Arctic.

My journal for the months of May, June, and July gives a picture of our activities:

Friday, May 25th.—We reached Etah at one o'clock. Our dogs were tired with wallowing through deep snow. Inside of Littleton Island open water compelled us to take the ice-foot; at one place it was so narrow that, to handle one sledge, three men were necessary.

East of Sunrise Point a seal was seen on the ice. Knowing that there must be but little meat at Etah, we tried for it, but lost it.

Jot had just gotten to bed when we arrived. He was soon up, however, and had coffee and musk-ox meat ready. He and his party had been in from Ellesmere Land only twenty-four hours. They bring some good specimens, among which are two small musk-ox calves, a six-legged musk-ox; and a baby bearded seal. Only one bear to their credit, but musk-ox galore. Their sledges were piled high with skins and meat.

Saturday, May 26th.—Jot, Oo-dee, and Ah-now-ka left to-day for Ka-mowitz seal-hunting.

Am busy developing 120 negatives. The water is so dirty that I am about discouraged. Think of sending Eskimos to the lake for a fresh supply.

Cloudy weather prevents me from obtaining a good double altitude for correction of chronometers. Captain Comer is very busy with his tides, therefore I take all meteorological work off his hands. My time is more than full now. Every minute counts from now up to the arrival of the ship.

Sunday, May 27th.—The warmest (twenty-eight degrees above) and best day which we have had for some time. I developed a few pictures but give it up for lack of good water.

The Eskimos are busy with their bear skins and catching little auks which can be heard chattering at the cliffs.

Ice conditions are very much different from last year. From our door not a particle of open water can be seen.

Thursday, May 31st.—Have been on the jump all day, as I shall be until the ship comes. Drove twice to the point for coal, wood, water, tins, and crated demijohns. Our coal is about gone, therefore I am continually picking up all the wood which I can find.

Water is now trickling down over the rocks at the falls. Have tins under every trickle and hope to keep us supplied. Have spent much of my time boiling and filtering water for developing 150 negatives.

Have had Wee-we clean our Hamburg machine, which Jot put aside some months ago, with the result that we are enjoying some excellent musk-ox Hamburg steak.

The wind has played havoc with E-took-a-shoo's tupik. It is flat, and he and his wife are in our cellar for the night.

At the head of the fiord it looks like a smother. A heavy bank of fog seems to be rolling down from the ice-cap. As it reaches the hills the wind tears it apart and rolls it into large cumulous clouds which go flying past the house into the southwest.

Saturday, June 2d.—Doing tidal work and trying hard to keep awake, having omitted one night's sleep. Wind is subsiding and head of fiord clear. Good weather promised.

Dirty Face having pups. Thinking it was about time, I built her a house yesterday. Two of the pups were apparently lifeless; I thought they were dead or would soon be. To my surprise, upon going into Ah-ne-nah's tupik at two o'clock, I found one suspended over the stove in a handkerchief, uttering good, healthy, contented grunts, the other being similarly treated in Al-nay-ah's tupik.

Ak-pal-e-soo-ah-suk tells me that some years ago there was a pup hanging above the Eskimo lamp, and it fell into the cooking-pot! I presume they left it right there.

Have developed, fixed, and filed away thirty-two negatives to-day. This means considerable walking, as I carry them all out to a pool in the harbor ice. At midnight I begin my hourly tidal observations.

More pups born to-day. Have now three bitches with pups—sixteen in all, I think. It keeps me busy providing shelters, grass, food, and water in addition to attending my own team of eight, including one dog with rabies which I must chloroform at once before he breaks loose and bites every dog in the village.

Sunday, June 3d.—At 5.30 this morning Jot, Samik, and Oo-dee came in from the north, having secured about sixteen seals, and, what was of much more interest to me, the eggs of the gyrfalcon. This is our second set and an excellent addition to our collection.

At point this side of Rensselaer Harbor they met Sipsoo and In-you-gee-to, the last of Rasmussen's supporting parties, returning from Fort Conger, where they had been hunting musk-oxen. Among other relics, souvenirs, and things of interest, he had my record left there in June, 1909, with Ekblaw's addition left in 1915.

Jot had a thrilling experience and possibly a narrow escape with his life. When walking along the ice-foot he fell into a crack up to his armpits; he held for some time, but finally dropped ten feet or so into water up to his waist. There was no possible escape without help, and Oo-dee had gone on. With the rising tide he would drown, if he did not perish from cold long before that. To say that he yelled would not half express the noise which he made. But finally it was effective. Samik heard him and thought he was back in the hills somewhere. When the boys finally found him they were unable

IT WAS HARD TO BID THEM GOOD-BY

A REAL DOG

to pull him up because of his weight, augmented considerably by his saturated clothes. They fastened the line and he worked himself up with their help.

Monday, June 18th.—Immediately after breakfast Jot and I got away for Littleton and Eider Duck Island in our kayaks, the Eskimos following in the sailing dory, fifteen of them. Arriving at the island dead low water presented an inaccessible wall of ice, the ice-foot, or collar, as sometimes called. We all camped in Beebe Cache Cove on Littleton Island. While the boys rowed to *Polaris* winter quarters after our tent, I crossed the island in search of eggs, of which I found only two.

On the high water we crossed to Eider Duck Island. The ducks were about half through laying, I should judge, as there were in the majority of nests two eggs only. Jot and I together collected 325.

Three nests of the brant (*Branta bernicla glaucogastra*) were found, two of the nests containing four eggs, and one with six. I also found one good set of glaucous gull's (*Larus hyperboreus*) eggs, while two of the Eskimos brought me two sets of two each.

It was raining, strange to say, during all the time we were on the island. With one tent for seventeen people and with no sleeping-bag, I decided to row home while wind, weather, and tide were fair. Reached Etah in three hours. Walked a couple of miles after my dog-team and drove back for the eggs. Got to bed at seven o'clock, twenty-three hours up.

Saturday, June 23d.—With four of the Eskimos I rowed to the Crystal Palace Cliffs after a load of meat. Returning, we called at Cape Kenrick for eggs of guillemot (*Cepphus mandti*), of which we secured sixteen.

Exposed nine plates to show breeding locality, and also characteristics of the ice-foot, which seem to be so little understood by geologists.

My big white dog slipped his harness yesterday and killed a small pup belonging to his aunt, Whitey. The dispute as to the ownership of the child was on when I arrived on the scene with a club. The culprit has had his head and tail down for several hours, wondering wherein it is a criminal offense to eat good, tender, juicy meat.

Wednesday, June 27th to Thursday, July 5th.—A wet trip from start to finish, but with good results.

Seven of us left Etah on the 27th, four in sailing-dory and three in kayaks, for a trip south, with the expectation of getting eggs at Sutherland Island and hopes of killing walrus at Sulwuddy for our hungry dogs.

Passed around Cape Alexander unseen by the Devil League of the Arctic regions. On the south side I secured three clutches of eggs of the glaucous gull.

At the island (Sutherland) we found hundreds of eider ducks on and off their nests, and also noted nineteen brant flying back and forth. Within a very short time we collected about a thousand eggs, including eleven of the brant. All nests containing four and over I left untouched, knowing that at this date they were too much incubated to be relished.

It began to rain when we were on the island, and continued intermittently for the next six days.

When in camp at Sulwuddy the boys hinted that they would like to go to Nerky to see the Eskimos, which I decided to do as soon as weather would permit.

Some of the party spent their time digging about the old igloos for ethnological specimens, while the others hunted for seals, of which Arklio shot two.

Rowing along shore to Nerky, we noted an unusually large number of hare so close to the ice-foot that we shot repeatedly from the boat, getting three. Drift ice west of Nerky caused us to deviate considerably from our course. Finally, we worked in toward the settlement without being heard or seen by the Eskimos. Entering a fine big tupik, with some difficulty I at last recognized the sleeping man and woman as Kood-look-to and Ah-nay-doo-a. It took them some time to realize who I was and how I got there. Within a few minutes all in the village were up and out.

There were five tupiks in all—Kood-look-to and wife; Ah-we-gee-a and wife; Kla-shing-wa and wife; Ah-pellah and wife; and In-you-ta with bachelor apartments, one of my old igloo linings. Toi-tee-a and wife, who left Etah a few days ahead of us by way of the ice-cap, were blocked here by open water. As he could reach his home only with considerable difficulty, I offered him our boat, in which the Eskimos could row him to Ig-loo-da-houny. They started at once, returning the night of the 30th, working slowly through a large field of drift ice.

On July 1st we left for home, accompanied by Kood-look-to, Kla-shing-wa, In-you-ta, and Ah-pellah, the last named intending to go only as far as Peteravik, the others to Sutherland Island for eggs.

Some five miles west of Cape Chalon, E-took-a-shoo harpooned a young *ook-jook* (bearded seal). Walrus were seen several times, one of which Kood-look-to tried to harpoon but failed, attempting to throw at too great a distance. Just off Sulwuddy a single one came to the surface, which E-took-a-shoo harpooned very prettily.

After cutting up both seal and walrus, five of the men decided to continue on to Sutherland Island and to Etah before the wind should prevent. The next morning we joined them at the island, where we found them shooting ducks and collecting eggs. Klashing-wa had six eggs of the brant for me.

The night of the 2d was very windy, with heavy surf, so much so, in fact, that I worried considerably over the safety of our boat moored at bow and stern. A heavy swell prevented our attempting to start until 6 P.M. on the 3d, and then not without some apprehension as regards the men in kayaks. They came along nicely, however, riding like ducks.

After rounding the cape we encountered a large herd of walrus, which disappeared for some time, reappearing well to the west of us. Soon a single one was seen. Oo-dee was persuaded to make his first attempt, which I watched with interest. E-took-a-shoo accompanied him, encouraging and cheering him on. No sooner had the iron left Oo-dee's hand when E-took-a-shoo threw, both getting fast. Arklio gave him the finishing stroke with his .35 Winchester.

What was apparently a difficult piece of work was easily and quickly accomplished by ten of us in a very few minutes. An Eskimo tackle was used in drawing him out of the water on to the ice-foot, where he was cut up and thrown into the dory.

Crossing now to the Crystal Palace Cliffs, we were fortunate in harpooning two others. Here I was tempted to camp. We were wet through, tired, and hungry. I knew, however, that Captain Comer was anxious to get away on his digging trip; therefore we pulled on to Etah, another six miles, with dory down to the gunwale.

Noo-ka-ping-wa met us at the edge of the ice with dog-team, informing us that all others were up the fiord after dovekies. Working in a drizzling rain, we finally succeeded in getting everything to the house over the broken ice.

To our surprise, we learned that it was the 4th of July. Jot went to bed, but I remained up thirty-six hours in order to be regular in the future.

This evening we fired a salute with our rifles in honor of the day.

Tuesday, July 10th.—Clearing up at last. Shall get away for Littleton Island and Now-yard-ee if weather permits, later in the day.

Saturday, July 28th.—From now on it is watch the south continually. Captain Hanson informed me that he would be here August 1st. Everything is packed and ready to go at any moment—over 200 boxes in all.

Sunday, July 29th.—Walked the length of the fiord to-day along the top of the cliff, to determine height. The first elevation east of house is 1,100 feet, the last at head of fiord I found to be 1,350 feet. The terminal moraine back of the house is 350 feet high.

Heavy wind from the south'ard, with whitecaps in the south.

After dinner I climbed half-way to top of Thermometer Hill to get photos of solifluction.

In-ah-loo has started for Now-yard-ee, a walk of twenty-five miles, to get an old stone lamp for me.

The 31st arrived. On the morrow Captain Hanson and the Danish ship *Danmark* were expected. All eyes were turned toward the south, each one hoping to be the first to descry the black trail of telltale smoke. Everything was ready. The boxes were at the edge of the bank, easily accessible for the boats.

One more moving picture of our waterfall, I thought, and over I went to secure it. When busily engaged in operating the machine, old In-ah-loo forded the river, and, stopping near me, inquired, "Has any one seen the ship?"

"Not yet," I replied, and without looking out to sea, continued my work.

She passed on into her tupik, wondering, possibly, if her eyes were deceiving her; for there was the ship plainly visible far off in the track of the sun, bucking a hard sea and wind.

Within a few seconds this fact was startlingly evidenced by a concerted yell from the excited natives. "*Oo-me-ark-suah! Oo-me-ark-suah!*" ("Big ship! Big ship!") echoed throughout the settlement.

With two masts only, and these wide apart, we thought at first that she must be the S.S. *Roosevelt*, her rig having been lately changed to fit her as a wrecker.

Steaming northward, she passed from our view behind the harbor hills. While impatiently awaiting her reappearance we were puzzled as to the import of the long-drawn wailing shriek of the siren whistle. A salute? A stranger and wanting a pilot? Or had she struck on one of the numerous ledges bordering the entrance of the fiord? Jumping into the punt, I was soon at the point and directly under the bows of the big gray ship as she steamed into view. Instantly all resemblance to Peary's ship, the *Roosevelt*, disappeared. Old, worn, and battered, and painted a dark battleship gray. On her bow was the name—*Neptune*. Although well acquainted with this veteran of Arctic work, I was deceived as to her identity by the change in her general appearance, brought about by the removal of her mainmast since our departure from home.

E-TOOK-A-SHOO LISTENING AT THE BREATHING-HOLE OF A SEAL

TRACKS OF THE POLAR BEAR

A ringing command from her bridge sounded very familiar.

"Is that you, Bob?" I yelled.

"Of course! Who in hell do you think it is?" was the characteristic reply.

On the quarter-deck I was introduced to a Mr. Burbank, a friend of Captain Bartlett's from Pittsfield, Massachusetts, and Dr. G. S. Knowlton, of New York, the surgeon of the relief expedition.

"How's the war?" was my first question.

"The war is still on. America has joined the Allies."

"Who is President of the United States?"

"Wilson."

These bits of information were extremely interesting in view of the fact that the Etah argumentative society of four members, which held its meetings daily at 8 P.M., over a cup of tea and biscuit, had been divided (Comer, Hovey, and myself holding one view, and Jot the contrary) over the results of the world struggle. That the Germans were not in Paris we strenuously endeavored to demonstrate at every convocation, but without success. That there were Germans in sufficient numbers in our country to assume control at the orders of Kaiser William we were strangely reluctant to admit. But upon one point we all happily agreed. Wilson could not possibly be re-elected. He was eliminated without opposition.

Home! Why, it was like going to another world! Happy? Yes —no! Naturally we wanted to see friends and relatives, but the Great Northland gets a relentless grip on a man. Its drift ice, its towering white bergs, its glittering domes, its receding ice-cap, the stretching trail, the galloping dogs, the happy, laughing, contented Eskimos—all attracting, appealing, and ever calling.

We reluctantly bade good-by to those faithful helpers who had made our work possible. We had been happy together. They had been faithful to the end. E-took-a-shoo, Arklio, and Ak-pood-a-shah-o—I can never forget them. There was not a smile on the face of a single Eskimo as they slowly descended the rope ladder to the boat which I had given them. We threw down the painter. It remained where it fell. Not an oar was lifted. The boat drifted toward the shore and toward Borup Lodge, now their home. We waved our hats until the black dots merged into the distance. And

long after they were gone I watched the white dots on the bank to the left of the house—my dogs. We had traveled far together. Together we had enjoyed those long bright days far beyond the snow-capped peaks of Ellesmere Land; and together we had faced heavy wind and cutting drifts. I couldn't leave them all. Three were with me, bound for the land to the south where there are no heavy loads and long trails. Their pulling days were over.

Extensive fields of ice on the southern horizon caused Captain Bartlett to attempt a passage south by following closely the Ellesmere Land coast. At Clarence Head he encountered a solid mass; not a lead could be seen. We steamed eastward toward the Cary Islands, and remained here locked in the ice for three days. Two big iron plates had already been ripped completely off the bows of the ship, leaving bolt-holes through which the water was pouring incessantly. All steam-pumps were working to full capacity and had been doing so for days. A well was constructed in the forehold out of heavy planks from which, in case of emergency, water could be dipped with barrels and buckets.

There was no opening to the south'ard, so the *Neptune* steamed back toward the southwestern shores of Northumberland and Hakluyt Islands. I had hoped, since my advent into the Arctic, to land upon the latter. Discovered and named by William Baffin more than 300 years ago, it was the center of controversy for years, and was finally erased from the map, together with all of Baffin Bay, because the account was "vague, indefinite, and unsatisfactory, and . . . most unlike the writing of William Baffin."

Two hundred years passed away before another ship

sailed along those shores, rediscovering Hakluyt Isle and confirming Baffin's account in every particular.

Captain Bob, Mr. Burbank, and I landed upon this historic island, which we found dotted with evidence of former inhabitants—old stone igloos, tupik rings, storehouses, and stone fox-traps. Little auks, or dovekies (*Alle alle*), were swarming along the talus slopes on the south side, while Brunnich's murres (*Uria lomvia lomvia*) and Puffin's (*Fratercula arctica naumanni*) occupied the striking vertical cliffs of the north.

From the heights we saw it was impossible to proceed west. The heavy pack extended as far as the eye could reach. Possibly a passage south was offered by encircling the islands and hugging the land as far as Cape York. This Captain Bartlett decided to do. At Ooloo-set, on the western end of Herbert Island, the natives visited the ship, smiling and sweaty with their hurried exertions in working their kayaks through the rapidly moving drift ice.

At the first opportunity we moved south to Cape Parry, where open water enabled the ship to reach within twenty-five miles of Cape York. A call at the now deserted village of Ak-pat recalled pleasant memories of my visit two years before. The once pleasant, well-warmed, and well-lighted igloo of my host was now but a chaotic mass of rocks, wet grass, and melting ice. Six rusty guns testified to their uselessness after the ammunition had been expended.

Bright weather on the 12th tempted Bartlett to steer boldly south into the pack in the hopes of finding a favorable lead, a somewhat dangerous procedure for a vessel of small power, but perfectly safe for the old *Neptune*.

Sixty years before, almost to a day, the little *Fox*, sent out by Lady Franklin in search of her husband, Sir John, became tightly locked in the ice of Melville Bay. For 252 days she was held a prisoner, drifting 1,194 miles before she was released.

A few hours of offensive work with very little marked progress justified our captain in retreating to the lee of Cape York to await a favorable change of wind. Seven kayaks were soon alongside and the occupants were made extremely happy with the gift of apples, bananas, tea, biscuit, and tobacco.

At noon of August 13th the *Neptune* swung on her heel for another effort to penetrate the ice-field which lay between us and home. At five she was in open water and going rapidly southward. It was with a strange feeling of almost homesickness that I watched that northern land dropping below the horizon. Savage at times, and wild and desolate, yet altogether kind to us from the Southland, it holds a warm place in my heart.

Our last letter received from Ekblaw, who left North Star Bay in December, 1916, announced his safe arrival at Upernavik; however, his feet were so badly frosted that he might possibly be compelled to await our arrival. If possible, he would go on to Godhavn.

We had passed Upernavik. Would he be at Godhavn, was the important question, as we steamed in by the old whaler's lookout and rounded the rocky point inclosing the snug little harbor of Godhavn, the capital of the Inspectorate of North Greenland.

Hardly had our anchor touched the bottom before Governor Ohlsen and Inspector Lindow stepped over the rail to bid us welcome. Mr. Ekblaw was here, they informed us, at the home of a Mr. Porsild, a scientist

engaged in government work. We felt that a load had been lifted from our shoulders. It would not be necessary to return to Upernavik in search of the last member of our expedition. He appeared within a few hours, looking hale and hearty and entirely recovered from the effects of his Melville Bay trip.

Our sojourn at this port was most enjoyable, due to the kindness and the courtesy and the hospitality of Inspector Lindow, Governor Ohlsen, and Mr. Porsild. Everything was done to cause us to regret the briefness of our stay. A visit to the home of Mr. Porsild caused us to gape in astonishment at its appointments—a laboratory, a large library, a dining-room, a music-room. With a happy, contented wife and a charming daughter, he had found the key to happiness—a key which he would never give up. Henceforth this would be his homeland.

Rich in its association, that little town of Lievely, so called by the English and Scotch whalemen, has a long and interesting story of its own. Far the most interesting relic of the past is the whaler's lookout built in 1782 of the jawbones of a whale. Here hardy seamen have registered their names during the long hours of the watch. Dates were found as far back as 1811. The old rusty cannon still stands on guard, ready to announce to the fleet anchored in the bight south the sighting of a whale or the rupture of the pack. Its red mouth has long been silent. The buildings at the foot of the hill have rotted away. The once proud fleet no longer exists.

There in that harbor practically all American expeditions have anchored. The cairn outlined against the sky on the eastern heights at an altitude of 2,400 feet

was constructed by Peary when on his way northward in 1891. And here "a little man in a ragged flannel shirt" (Doctor Kane) steered his battered boat out to meet the relief-ship.

Within a few yards distant from our anchored ship lay upon the rocks the historic and dismantled *Fox*, the first to solve the problem of the fate of Sir John Franklin and his 129 men. She steamed proudly into the harbor sixty years ago, with colors flying, under the command of the gallant McClintock. Crippled with old age, battered and worn and abandoned, she was towed into the harbor and to her last resting-place a year before our arrival. Her service had been long and honorable. She deserved a better fate.

A striking dissimilarity exists between the natives of Godhavn and those of the far North. Inferior in general appearance, inferior physically, they are living witnesses, in spite of the excellent care of the Danish authorities, to the inevitable and regrettable result of contact with the white races. For two hundred years they have been associated with the Danes. The body has lengthened, the face has narrowed, the hair and eyes have lightened, the ruddy cheeks are gone. All are white, drawn, and apparently tubercular. Their igloos and tents have been abandoned for small, tight wooden shacks, every crack and crevice of which is kept religiously closed in order to conserve the hard-earned supply of peat gathered from the hills for consumption in their small iron stoves.

My observations extend only to this one settlement. I understood from Inspector Lindow that a much hardier and more energetic people are found on the Whale Fish Islands, a few miles to the south.

Our trip south began at 1.30 on August 17th, and was

THE OLD WHALER'S LOOKOUT AT DISCO

THE END OF THE FAMOUS "FOX"

without notable incident. Heavy weather and thick fog consigned most of us to our bunks and Bartlett to the bridge. The old *Neptune* pounded her way south with a bandage drawn tightly across her nose to prevent her from imbibing too much water. She angrily tossed this aside, throwing the responsibility upon Mr. Crossman, our chief engineer, to keep her free of that steady stream running aft to the pumps.

A dark line on the starboard bow on the morning of the 22d meant much to us who had been away so long. It was our first view of the Southland—Labrador. Again I saw those deep fiords with the almost numberless islands and inside runs through which I had cruised in 1910–11–12. A simple people there, but honest, frank, delightful.

The hills came up rapidly out of the sea, domes of gray rocks molded by the oncoming glaciers of æons ago, now sterile and forbidding, serving as bulwarks against the onslaught of southerly drifting ice-fields. We eagerly scanned the inner reaches of the bays for signs of vegetation. How we longed to see trees again!

A few hours at Turnavik, the Bartlett fishing-station, and then on again toward the south, sending our despatches by wireless to the Makkovik Station as we passed.

We encountered our first real touch with the world's great war on the morning of the 24th. As we approached Sydney Harbor, a power-boat shot out from the eastern shore. We were boarded, inspected, and given permission to proceed through the gates of the long line of chained pontoons, our entrance from the quietness and peace of the North into the turmoil and bloodshed of warring nations.

XVI

CONCLUSION

MATERIALISTS are inclined to doubt the sanity of men who head their ships toward the ends of the earth in search of new lands and new truths. Only ice and snow are visualized; and this is so remote that it is deemed of but little value in its contribution toward the wealth of the world.

"What are you going to do with the land when you find it? Can you raise wheat on it?" were the practical questions put to me by a Wall Street banker.

To him the obliteration of a vast unknown space by the substitution of well-defined coast-lines of a great continent was a useless expenditure of time and money, unless that land could be inhabited and its resources utilized. Knowledge of the fact that land *exists* there, supplanting ignorance and conjecture; its physical characteristics, which are but another chapter in the history of our globe; its birds, many of which pass our doors in spring and fall; its animals, existing where life seems impossible; its bright-colored flowers blossoming at the very edge of eternal snows; its climate, exerting such a vast influence upon southern countries—all these considerations are tossed aside as irrelevant; they cannot be made to return dividends—that is, in the Wall Street sense.

Space will not permit a review of what the Northern traveler has contributed, not only to the various branches of science, but to our actual welfare. Man has been content to leave home, to live in savage places, to plod along through deep snows, to land upon primeval shores, to suffer privations and discomforts, and all this in order to add his mite to the sum of the world knowledge. And man will continue to do these foolish things and to undergo these useless hardships until the sum of human knowledge is complete.

We hope that our four years in the North have added something to the world's storehouse which may be of interest and value, geographically and scientifically. Summed up, the results stand as follows:

1. The disproving of the existence of Crocker Land as placed upon our latest maps.

2. Evidence of the existence of new land far to the west of our last camp on the Polar Sea.

3. A survey of a previously unexplored stretch of coast-line on the northwest shores of Axel Heiberg Island.

4. Exploration and survey of the Greely Fiord.

5. The first attainment of King Christian Island, a land seen in 1900 by the Sverdrup Expedition.

6. A survey of the northern, eastern, and part of the southern shores of North Cornwall.

7. A survey of the eastern coast of Ellesmere Land from Cape Sabine to Clarence Head.

8. The discovery of nine new islands.

9. A resurvey of the North Greenland coast from McCormick Bay to Rensselaer Harbor.

10. A detailed survey with soundings of Foulke Fiord.

11. Discovery of coal in Bay Fiord and along the southern shores of Axel Heiberg Island.

12. Recovery of three records of Dr. Elisha Kent Kane of the Second Grinnell Expedition of 1853–55.

13. Recovery of two records and section of silk flag of Rear-Admiral Peary.

14. Recovery of two records of Sir George Nares of the British North Pole Expedition of 1875–76.

15. Recovery of mail (three personal letters) left by Sir Allen Young at Cape Isabella in 1876 for the British Expedition under the command of Nares.

16. The securing of two sets of the very valuable eggs of the knot (*Tringa canutus*).

17. A three months' series of tidal observations at Etah, North Greenland.

18. A compilation of 3,000 words of the Smith Sound Eskimo language.

19. Five thousand five hundred photographs.

20. Ten thousand feet of motion-picture film.

21. Extensive work in geology, botany, ornithology, meteorology, and ethnology.

APPENDIX I

THE SUMMER AT NORTH STAR BAY

W. ELMER EKBLAW

WHENEVER I consider in retrospect the summer that Tanquary and I lived at North Star Bay, over one hundred and thirty miles from Etah, our headquarters village, I can laugh at the unpleasantness and worry and hunger that made it drag interminably for us; but at the time our situation was so serious, and continually threatened to become so precarious, that it was anything but humorous.

Prevented by frozen toes from completing the dash for Crocker Land upon which I had started with MacMillan and Green, I loafed about the house at Etah throughout the month of April, waiting for my toes to heal. Restless from confinement within doors, and eager to be out doing something, I could hardly await the doctor's permission to tramp around. During my imprisonment in the house, Peter Freuchen, the Danish factor at the trading-station at North Star Bay, had been our guest, and when the time came for him to think of returning to his station he urgently invited Tanquary and me to accompany him and to stay with him through the summer as his guest, while we engaged in our various

scientific studies of the rather large area about North Star Bay.

Though we were somewhat reluctant to leave Etah, the invitation was so urgently repeated, and the opportunity for valuable scientific work seemed so good that we finally decided to go. We were earnestly supported in our decision by Doctor Hunt, whom Mac had left in charge of the station and who insisted that it was our duty to go.

As soon as we had made our decision we began assembling the equipment and supplies that we expected to need for the summer's work. Because of Peter Freuchen's insistent assurances that he had ample food for all our needs, and his urgent request that we refrain from carrying with us anything but a little fruit and some other tinned goods, we made no attempt to take any substantial supplies with us.

The first week in May we left Etah for North Star Bay, part of a long train of eleven dog-sledges. At that time the midnight sun was two weeks old and travel was easy and pleasant. Just south of the Cape Alexander glacier our party met another party of thirteen sledges, northward-bound. This was probably one of the largest groups of dogs, sledges, and Eskimos ever gathered together at one time in that part of Eskimoland. For almost half a day we stayed there, boiling coffee, walrus meat, seal meat, and whatever else with which the sledges were provided. Everybody was happy, everybody loath to go on, and only when the dogs became so unruly that a general mix-up threatened did the assembly break up.

We stopped a few days at Nerky, where most of the tribe was congregated for the annual spring walrus-hunt.

Thence we went by the outside route around Cape Parry, stopping for a day at Kiatak; at Kiatak the first pair of snow-buntings appeared from the Southland, the usual signal for the Eskimos to move from their stone igloos to their sealskin tents, or *tupiks*. The ice was generally good, and we made rapid progress to Umanak, the Eskimo name for North Star Bay. Except for a violent blizzard in which we became lost crossing Whale Sound, and which forced us to build snow houses near Cape Parry to shelter us from the storm, our further way to North Star Bay was without incident.

Just as we came driving up to the trading-station from the north, Sechmann Rossbach, the catechist, or teacher, with his family and a number of other Eskimos, came driving in from the south, having come from Danish Greenland. We little anticipated then that before the summer was over we should have to thank Sechmann for keeping us from starvation.

Peter Freuchen established us in his own house and we made ourselves as comfortable as limited facilities permitted. A little misgiving entered our minds when Peter told us that during his absence the Eskimos had eaten nearly all his provisions and had made way with all his coffee, sugar, and tinned goods, but we felt that we could readily live on meat and blubber if need be, never dreaming that in a land where game was relatively so abundant we should ever lack meat.

The days passed pleasantly enough. Hunting was apparently poor, for meat was difficult to get from the Eskimos. We made serious inroads upon the few supplies we had brought from Etah; though we wasted nothing, we made no particular effort to save anything, relying upon Peter's assurance that just as soon as the

summer opened an abundance of meat would be forthcoming. By the 1st of June, not quite a month after our arrival, most of our tinned supplies were gone, even though we had despatched several sledges to Etah after more.

An attack of snow-blindness early in the summer taught me a valuable lesson. It was in the last week of May that I went out for a seal-hunt with Mene Wallace, the New York Eskimo celebrity. For over thirty hours we hunted steadily. I used no sun glasses, for I felt no fear of snow-blindness; but throughout the hunt I taxed my eyes to the utmost, searching the ice for the sleeping seals with my big Leitz No. 10 field-glasses. When finally we made camp, at the head of Granville Bay, instead of sleeping, we hunted ptarmigan, of which we found several flocks. After a luncheon of seal meat we started home. My eyes were heavy and tired, but I thought nothing of it until I was almost half-way home. Just after we had come out of Granville Bay and turned up Wolstenholme Sound toward North Star Bay, I began to feel sharp pain in my eyes and my sight became blurred. The pain increased, and my eyes became so bloodshot that what little I could see looked red.

We got into the station late in the afternoon. Soon afterward I went to bed. By midnight I was almost raving mad with the pain, and I had to call Tanquary and Peter to help me. For nearly three days they dropped cocaine into my eyes at frequent intervals, and gave me occasional hypodermics of morphine; whenever the effect of the drugs waned the pain grew so excruciating that I became almost irrational. Never have I suffered such keen or intense agony. I felt sure I should never

regain my sight. I could not imagine how my eyes could ever be normal after such a paroxysm of torture. When finally the pain abated and I could begin to see again, I was about the most thankful mortal that had ever been in the Northland. In a few days my eyes were clear and apparently as strong as ever, but after that experience I never went without colored glasses while out sledging.

Before my eyes had quite recovered, Peter suddenly decided that he would have to leave for a bear-hunt on Melville Bay and to get some supplies he had cached at Cape Seddon. This trip he had proposed, with the request that I accompany him, a month before, and all through May while I had expected every day to start he had found one reason or another to postpone going. Now when I was unable to get out, he abruptly announced that he and two Eskimos would go at once.

During his absence Tanquary and I had no little difficulty subsisting. Our supplies were gone, the Eskimos were short of meat, and we had no dogs to go out hunting. Had not Mene helped us out by killing occasional seal for us at this time, we should repeatedly have been hard pressed for food. Finally Sechmann Rossbach asked us to share the mission station with him, and we accepted his invitation. A few days before Peter returned, we moved from his house, taking our belongings with us. Sechmann's wife had arranged one of the largest rooms in the mission very cozily for us, and throughout the rest of our stay at North Star Bay, we were most comfortably situated.

Peter returned from his bear-hunt about the middle of June. He stayed at his house but a few days, and then, on the plea that he would have to lay in a supply

of eider eggs, went to Saunders Island, taking with him all of the few supplies left. Tanquary and I had long before realized that Peter's hospitality had come to an end and that we could depend no longer upon him for any assistance; Peter apparently meant well, but he shed responsibility as a seal sheds water.

We were thus thrown upon Sechmann's bounty, and, though he was "only an Eskimo," he proved to be a gentleman and a true friend. He shared his every bit of food with us, hunted persistently every day that was fit; throughout the summer he was never sullen, discouraged, or angry. Many times we were without food in his house for days at a time, but his hospitality and kindness never changed. He measured up to a high standard as a man and a Christian. Many a white man would not have been so truly hospitable and generous.

All summer long Tank and I worked assiduously at our sciences. The field was new, large, and deeply interesting. Had not the food problem bothered us continually we should have enjoyed the season very much. Almost every day we were out on long tramps over the rough country back of the station or sledging to some place about the Sound, where we wished to study. Birds were numerous, the vegetation relatively luxuriant, and the geology varied. Tanquary found the region well worth the researches of an entomologist.

But always the shortage of food worried us. Several times through the summer, when the weather prevented hunting, we could see starvation staring us in the face. As the summer advanced, the conditions grew worse and worse, and the situation more critical. We had to wait until relief came by boat, for sledging to Etah was impossible after the beginning of June. Our hope was

pinned to a relief-ship, and we nearly wore out the field-glasses watching the horizon toward the mouth of the sound, where we ought first to see a ship. If either of us woke at night he went to the door to take a look. All the time we were hungry; I could cordially sympathize with Tanquary's remark one night as we crawled into our sleeping-bags, "These people that go in for high thinking and plain living don't meet my approval at all."

The strain on our stomachs was hardly worse than the strain on our tempers. We were irritable and sensitive and sometimes quarrelsome. I remember well one day when Tanquary had sent me out on a wild-goose chase over boggy and rocky country to try to kill some eider duck. The duck were wont to come in close enough to land to be within gun-shot range, along a sand-bar upon which they fed at low water. I found when I got to the place that the tide had just begun to ebb. I came back more than a little indignant, and remarked that it was perfectly evident that not all people had the same conception of what constituted "low water." Tanquary resented the tone of voice with which I said it, and retorted in kind. One word led to another, with the result that we were hardly on speaking terms for a week.

Hoover's "wheatless days" long ago began in the Arctic. Tanquary and I were without bread nearly all summer. We carefully conserved all our meager supplies. When first it became evident that we should face shortage of food, we took careful stock of what we had. Among the few things we had left was part of a small tin of prunes. We counted the prunes, and found that if relief reached us by August we could make the prunes last if we each ate four a day.

Hence, every day when we came in hungry from our long tramps, we brewed tea, which we drank without sugar or milk—of which we had neither—and ate our four prunes. Tank always carefully gathered the seeds together and took them out to a big flat rock before the house, where he cracked them and ate the kernels. He told me several times that he derived a lot of nourishment from them and that he expected them to keep him alive at least a week after I had succumbed. As it was, we had eaten our last prune almost two weeks before relief finally came.

The only untoward event of the summer was a near-drowning in which I was the lone actor without any spectators. I was returning from Saunders Island the last day of June, over a route by which I had gone out quite safely only two days before. A warm sun and high tides had rotted the ice in the interval, so that on my return I had to pick my way most carefully among the pools of open water and thin ice. At one of the most treacherous reaches I thought I saw a long stretch of good going that lay between two icebergs about a hundred yards apart. I started across it, and had just about got to the middle when the whole business dropped into the water. It was but the shell of a drift, with all the ice underneath worn away by the tide sweeping between the bergs.

My dogs and sledge and I dropped into the slush; I hung on to the sledge, but I felt sure that it was only a question of time until the scene would be ended and the curtain dropped. The slush was too thick to get through. My king-dog, a big, shaggy, white fellow, with Newfoundland blood in his veins, did not give up, however, though the rest of the dogs in the team de-

spaired after a few efforts. The big white dog kept threshing away, and finally, with the little help I could give him, got to the edge of the pool, and, at last, I too. Fortunately the day was clear and sunshiny, and though my clothes were all soaked, I did not freeze on my way home to the station.

One of the most interesting sights at North Star Bay was the station fur-storehouse. The summer Tank and I were there it was hung with about 3,000 blue-fox skins in bunches of fifty, graded according to color, and 300 white in bunches of fifty, too. The collection of furs was beautiful. The soft, glossy, fluffy furs ready for market were wealth and luxury that a queen might have desired to add to her wardrobe. Yet the wealth of furs ceased to interest us long before the summer was over, for our chief thought was getting away.

We had almost given up hope of relief that summer. We had worn a hole in the horizon looking so hard for a ship. Every day we wondered when we should again have enough to eat. The ice was so slow in going that we feared it was going to stay. Then on the 12th of August the long-awaited relief came.

I had been back among the mountains seeking to assuage by hard work the ever-present pangs of hunger. My feet were so stone-bruised that I could not walk fast; yet when I came to the crest of the divide back of the station and saw first the Danish colors waving from the flagstaff, I knew that a ship of some kind had come, and tried my best to run. Finally I could look over the ridge into the little bay, and there I saw the *George Borup*, our motor-boat, lying at anchor.

Fast as I could hobble down the mountain I hurried toward her. Doctor Hunt and Jot met me in a whale-

boat at the shore, and took me out to the motor-boat. Tanquary had already been partly filled up; but after I had eaten a can of pears he helped me to eat buckwheat cakes that Jot had started baking as soon as we got aboard. Jot swears to this day that between us we ate a hundred and that I took the lion's share.

Though except for the near-starvation the summer at North Star Bay had been pleasant enough, never were two fellows more glad to get away from a place than Tanquary and I were to get away from North Star Bay. We gave Sechmann all that could be spared from the motorboat; though later, the following winter, we gave him generously of our stores and personal equipment when he came to Etah, we felt that we could never repay him for his kindness and hospitality. Then we packed our equipment, got it aboard the *George Borup*, and, when Mac gave the signal to start, took our places in the boat without one regret that the summer was over and that we were to be back at headquarters once more.

APPENDIX II

ON UNKNOWN SHORES; THE TRAVERSE OF GRANT AND ELLESMERE LANDS

W. ELMER EKBLAW

EARLY in the fall of 1914, when MacMillan outlined the tentative plans for the work of our party for the season of 1915, he designated as the share for Tank and me the exploration of Ellesmere and Grant lands along the circuitous route from Etah to Cape Sabine; across Ellesmere Land from Beitstad Fjord to Bay Fjord; down Bay Fjord and Eureka Sound to the mouth of Greely Fjord; up Greely Fjord (to include the exploration of all its tributary fjords); across Grant Land by way of Lake Hazen to Lady Franklin Bay; and thence home to Etah along the west coast of Greenland.

The Greely Fjord—Lake Hazen portion of the route—constituted a most promising field for exploration and pioneer scientific investigation, a field of which long stretches had never been explored. The successful completion of this work would connect the exploration accomplished by Lockwood and Brainard of the Greely party, working from Lady Franklin Bay, with that done by Fosheim and Raanes of the Sverdrup expedition, working from Jones Sound, and leave unexplored, of all

the coast of Ellesmere Land, only two small fjords opening out upon Fridtjof Nansen Sound. The route would be about 1,200 miles in length; with favorable sledging conditions and no accidents of consequence, the time required to complete the work should be about three months.

Later in the winter, MacMillan changed the plans so that I should go alone with two Eskimo companions to Lake Hazen by the route originally proposed, while Tank would sledge up along the east coast of Ellesmere Land to meet me at Lake Hazen. For a month or so MacMillan considered having me stay with my Eskimos on the shores of Lake Hazen through the summer, to make an exhaustive investigation of the interior of Grant Land about the head of Greely Fjord and about the lake; but because he felt sure that a ship would come for us some time that summer he finally decided that such a course would not be best. As events afterward shaped themselves with the freezing in of our relief-ship on the Greenland coast, I could have stayed there throughout the year, accomplished a whole season's exploration and research, and come back when the ice formed, without causing any worry, trouble, or delay.

My preparations for the trip began early. Except that MacMillan outlined roughly the route that he wished me to follow and stated in general the purposes of my journey, he gave me only a few explicit instructions; he left nearly all the details of the plans and preparations to my own discretion. He provided me the best equipment available, to that end placing at my disposal the resources of the expedition and turning over to me his own team of dogs, one of the best, if not

the best, in the Northland. Every member of our party assisted me in all possible ways. Jot made my sledge, lashed it together himself, and gave to it the thought and care he would have given if it had been he who was to use it.

After much careful consideration of the various Eskimos available as companions for the whole way, I chose Esayoo to accompany me, one of Peary's former trusties, a sage old hunter upon whose judgment and loyalty I felt I could rely without any doubt or hesitancy, and E-took-a-shoo, whose courage and ability had been thoroughly tested.

Esayoo was a middle-aged man who had not yet lost his strength and agility. He was thorough master of the technique of Arctic travel and possessed to a high degree the ability to find game, to pick his way through new and strange lands, and to derive from the dogs the maximum distance of travel without wearing them down.

E-took-a-shoo was a young man, one of the strongest in the Smith Sound tribe. He was an expert hunter, especially of land animals, and a good dog-driver. He not only was the fastest builder of snow houses in the tribe, too, but he appreciated his superiority in the art and enjoyed exhibiting it. He was loyal, capable, and energetic, a splendid supplement to old Esayoo.

On these two men I was sure I could depend to the utmost. They would both be loyal, both energetic, and both wise in the ways of the trail. Though Esayoo lacked the energy and dash of youth, he made up for them in the wisdom and judgment of years and experience; though E-took-a-shoo lacked stability and the patience that comes with years, he compensated for them in willingness and strength. They were an ideal pair.

As supporting parties to help us over the first parts of our route and to get us well started, I chose two of the older hunters, Oobloyah and Okpuddyshao, to go with us to the divide of Ellesmere Land; and two of the younger fellows, Arklio and Nukapingwa, to help us as far as conditions necessitated. Of these men I would as willingly have depended upon Oobloyah for rare good judgment and cordial loyalty as upon my best friend. In my opinion he is as fine a man, even though an Eskimo, as one can find anywhere among any people. The others were almost as good.

Because my route was circuitous I should not come back over any part of my trail, so I could make no caches of supplies as I went along, to provide for my return. For a trip as long as mine would be I could not hope to carry enough provisions for the whole way. Hence I decided to reduce my supplies to a minimum and depend upon the country for the game necessary to keep us and our dogs in food. With plenty of ammunition and good rifles for every one of us, I felt sure that we could kill enough game if there were any. MacMillan also promised to have ready for us six caches on the Greenland coast against our return, should we be in need of food or other supplies.

I set St. Patrick's Day as the time of my starting, for I am Irish enough to believe that an undertaking begun on that day is almost certain of success; but because of scarcity of dog food, I was delayed until March 24th. As is always the case when an expedition makes ready to leave, every one of the party was eager to be off, and every one at headquarters was even more eager to be rid of us. The confusion and congestion antecedent to departure are always annoying.

The weather was not propitious as we set out. The wind blew strong and cold at the house, and we could tell by the driving clouds overhead that almost a gale raged beyond Sunrise Point. We decided, however, to make the attempt, and after bidding good-by to those left behind we slid our laden sledges down the bank to the ice, hitched our dogs, and dashed away. In an hour we were well by Sunrise Point, but there we entered the rough ice that lay between Littleton Island and the mainland; in the teeth of a howling northwest blizzard we toiled laboriously for eight hours through the chaos of broken ice blocks, with snow partly filling the hollows between.

Tired and worn, and wet with perspiration, and our fur clothes matted with frozen snow, we finally got to Cape Ohlsen, only eight or ten miles from Etah. Instead of making camp, we chose to return to headquarters, where we might dry out our clothes. We left our loads on the ice-foot and started back. With light sledges and with the wind behind us, we covered in less than two hours the distance it had taken us all day to make going out.

The 25th was a stormy day, and though we essayed an attempt to leave, we found a driving blizzard swirling beyond Sunrise Point and came back to Etah. On the 26th the storm had not abated; but about six o'clock in the evening Oobloyah came to me to state that he thought the storm had spent itself and that it would be wise to set out. We gave our dogs the last of the walrus meat procurable at headquarters, and again dashed away.

In a short time we reached the supplies and equipment that we had cached, loaded them on our sledges,

and took the trail again. The ice was still rough, but with better weather we were able to pick our way more easily, so that we made much better time. The midnight sun had not yet risen above the horizon, but at two o'clock, when we made camp on the rocks at the foot of the cliffs of C. Hatherton, the clouds above us were rosy with the rays of sunrise. Since the temperature was thirty-six below zero as we boiled our meat and tea for supper, we were quite content to get into our sleeping-bags.

We rose after a few hours' sleep and went on. The going kept getting better as we proceeded. The last rough ice we encountered was just off Cairn Point, where we had to cut our way with our picks for perhaps half a mile. Once through this last patch of chaos, we stopped long enough to polish our runners and boil some tea, before starting out across Smith Sound.

I have never driven over better ice than that which extended before us as far as we could see. It was hard as steel, and covered with just enough snow to give the dogs sure footing without balling up between their toes. The dogs sped along with our heavily laden sledges without any effort whatever. In a narrow crack in the young ice seals kept bobbing up, exciting both dogs and Eskimos and stimulating us all with the prospect of fresh meat for camp. We made camp beside a small iceberg in a pressure ridge that we encountered, where we built two snow houses for the night. E-took-a-shoo harpooned a fine young seal, fulfilling our hopes of fresh meat.

Though we did not get into our sleeping-bags until an hour after midnight, we were well fed and warm, though the temperature was lower than the night before. At

seven-thirty the next morning we hit the trail. As during the later part of the preceding day's march, our way lay in a belt of smooth, hard ice between the old, very rough ice of last year and the open water. The snow upon the ice was flat-packed, and rippled slightly by the wind, just the kind most favorable to the dogs. The day was cold, clear, and sunshiny, and we made excellent time to Cape Sabine, where we camped at Igloosuah, Peary's old headquarters on Payer Harbor. A year before I had come into Igloosuah on my way home to Etah, discouraged because I could not accompany MacMillan and Fitz to Crocker Land, both my feet frozen, and my body worn by pain and exhaustion. Now I was in the best of health and condition, confident of accomplishing my purpose and achieving my aim.

We stayed at Igloosuah until the forenoon of the 30th, feeding our dogs to constant satiety upon the walrus and narwhal meat that Fitz and the Eskimos had cached there the preceding summer. We were very comfortable in the old shack that is all that is left of Peary's station, for we could not heat it so much that the frost and snow melted and wet and dampened our clothes, as had been the case when I had been there several times before. The Eskimos were surprised that we found no trace of bear, for this was one of the favorite haunts of old white bruin, and we were the first party to come to the place that season.

The drive around Pim Island through Rice Strait was anything but pleasant. Though the sun shone clear, the wind blew cold and strong, driving the steel-sharp, steel-cold snow before it like so many tiny daggers that cut the face mercilessly and slowed down our dogs.

We made a long march, however, and got well into Buchanan Bay before we made Camp Greely on the ice off the northernmost point of Johan Peninsula. Throughout my trip I named each camp, so that I might the more easily remember it. Thus I had already made Camp Sonntag and Camp Hayes.

When we broke camp the next morning, Esayoo urged that instead of going up Beitstad Fjord, as we intended, we should cross Buchanan Bay and go up Flagler Fjord. In the latter he said we would find hard-packed snow and good going, as he knew from personal experience; in the former he felt sure we would find such deep snow as we had encountered the previous year over much of our route. I hesitated to act upon his suggestion, for I was loath to change my plans, but after conferring with Oobloyah, in whom I placed the utmost confidence, and who said we could not make any serious mistake to follow Esayoo's advice in anything, I decided to do as he urged. At first we met deep snow, but in a short time the going began improving, and kept getting better, until along Bache Peninsula we found a real Arctic boulevard, and before we made camp got quite to Eskimopolis at the point of Knud Peninsula. This was the first of the many valuable suggestions that Esayoo made on the trip, and that fully justified his reputation for good judgment and knowledge of the ways of the North.

I named our stopping-place Camp Small, for we reached it in the first hour of Jot's birthday—he was born on April 1st, and he always said he was Cape Cod's April fool. At this place E-took-a-shoo built a big snow house, the largest I ever saw in Greenland, with ample room for our whole party. Numerous bear tracks

about this place induced me to yield to the Eskimos' desire to stay a day to hunt, and we lay over. All the Eskimos went bear-hunting, except Esayoo, who had a stomach-ache; they came in after a few hours with the meat and skins of two bears, and we all feasted on bear meat for supper.

One of my dogs, a big tawny fellow, was seized with rabies at this camp; the dogs at Etah had been subject to the sickness through the winter, and now both the Eskimos and I were worried lest this dog of mine was only the first of our teams to fall victim to it. In every other way the prospect was most satisfactory; our dogs were generally in good condition, well fed, and not at all footsore; the ice ahead of us seemed smooth and but little covered with snow; the weather, though cold, was calm and clear; we ourselves were in the pink of condition and the best of spirits. The *esprit de corps* of my party was exceptionally good.

When we started out from Camp Small I had to leave behind us my sick dog, tied to a snow block, with enough meat for several days within reach, but I had little hope of his recovery; he could not stand on his feet, and every half-hour or so he was seized with a paroxysm that seemed to leave him almost dead. We left this camp rather reluctantly, for it was a pleasant place; but when we once got away we felt no regret. The going was splendid, the weather fine. As we dashed along, Esayoo pointed out to me the big cairn on the narrow isthmus of Bache Peninsula that Peary and he had built many years before. Though it was many miles away, I could see it with my naked eye. It must be a big one.

We camped again at Camp Sverdrup on the ice-foot

in the lee of the shore at the head of Flagler Fjord. When we broke camp the next morning, Easter Sunday, I was profoundly impressed with the magnificent view that lay before us as we started up the valley. The scenery was superb. Like great walls on either side, the precipitous mountains rose to guard the pass that we intended to go through. Never in all my Arctic experience have I been so thrilled, so excited, so exhilarated as I was during our drive up the valley to the pass, that glorious Easter Sunday. The sun shone clear, and the weather was so warm that we drove all day without our caribou-skin kooletahs; the ease and pleasure of this route, compared with the Beitstad Fjord way of the year before, delighted me; the going was good, the scenery unsurpassed; on every side we saw game or traces of game; and late in the afternoon, just after we had passed through the narrow gateway into a broad valley in the heart of the hills, we saw and killed our first musk-ox, a fitting close to an explorer's lucky day. I could have hugged Esayoo for guiding me by this pass. I named the gateway Sverdrup Pass, in honor of the stalwart old Norwegian explorer who had first seen it.

A storm kept us camped in this valley at Camp Green until the evening of April 7th. Then Oobloyah and Okpuddyshao helped us up the glacier as a last evidence of friendly interest and kind regard, and turned back toward Etah. We crossed the ice-cap in a few hours. I shall never forget my surprise when suddenly the black, serrated cordillera north of Bay Fjord burst upon the view as we reached the crest of the divide; I had not expected to see it for many hours. The descent to Bay Fjord was rapid and easy; when we struck the sea ice

again we made coffee in celebration of our quick and easy passage, and Esayoo was "guest of honor."

Scarcely had we reached the low land of the west coast when Nukapingwa discerned a large herd of musk-oxen not far from the site of Camp Ekblaw, as Mac had named the place the previous year from which I had been forced to return with frozen feet. A quick unloading of sledges, a fast chase across the little bay, and a wild dash up the mountain-side brought us to the shaggy beasts that we so much needed for food for ourselves and our dogs. Nukapingwa brought them to bay far up on the mountain-side, where he shot them one by one. Their great carcasses came rolling down, one after another, to our very feet, much to the excitement and joy of our dogs. At this place we established Camp Tanquary, where we stayed until we had consumed all the meat of the eleven musk-oxen killed.

The trip down Bay Fjord was slow and leisurely. We camped once at Camp MacMillan on the south side of the fjord, near a cliff in which I investigated a thick seam of soft lignitic coal, and from the top of which I could make a sketch of most of Bay Fjord and its tributaries. Across the fjord we could see a great herd of musk-oxen feeding on a wide meadow at the foot of the mountains; and I found no difficulty in getting the Eskimos started early the next morning—the musk-oxen were the best possible incentive to early rising.

On the way across the fjord we found the fresh track of a big bear. Nukapingwa preferred to go after the bear rather than join the rest of us in the musk-oxen kill, so he set off himself up the fjord after the bear. The others of us made a kill of fourteen fat, sleek musk-

oxen from one to three years old. The herd of which they were a part was composed of the finest specimens of musk-oxen that I have seen. They were thick padded with fat as golden and sweet as butter; their coats glistened bright and well kept in the bright sunshine; and their horns were smooth and polished. Esayoo counted sixty-seven in the herd. Their splendid condition was no doubt due to the excellent pasturage they found on the grassy meadows among the mountains and along the fjord.

The west coast of Ellesmere Land in the vicinity of Bay Fjord is not generally so precipitous and bleak as the east coast. It is more maturely dissected, the valleys are wider, the slopes are less steep, and the mountains do not everywhere rise so abruptly. Large tracts support a relatively luxuriant growth of willow, sedge, and grass, the chief foods of the musk-oxen.

Several of our dogs slipped their traces at this kill, among them one of my dogs, a little wolf-like gray creature, that Allen had named Pookey. Pookey was a strong, willing dog of which I had grown very fond in the short time I had driven her. Pookey had become wild with excitement when we made the kill, especially after we had driven the part of the herd that we spared away toward the mountains. The wolf in her grew dominant, and for the time being she became wild. I could not catch her, nor would she give up worrying the musk-oxen, until late that evening. Then, ashamed of her waywardness, she skulked back to camp over the sea ice, just as Nukapingwa came in flushed with success from his bear-hunt. He could not see our camp for a little ridge between us and the sea, but he did see Pookey sneaking along. Sad to say, I had told my

companions that very morning, when we had observed several pairs of wolves following us, to shoot every wolf that they could, for the skins were rare and valuable as museum specimens; Nukapingwa thought Pookey a wolf and put a bullet right through her. She crawled into camp, and Nukapingwa told me rather shamefacedly what he had done, offering me any dog in his team to replace her. Though I did all I could for poor Pookey, she could not hope to keep up with the teammates she had led before; to end her sufferings I put a bullet from my Remington .32 through her head, and she was still.

Arklio and Nukapingwa turned back from this camp, Camp Hunt. Their sledges were well laden with skins and meat. By them I sent, too, my last message to the men at Etah before severing our last connections with headquarters, giving them an account of my experiences thus far. They bade us good-by early on the morning of the 14th; they started their dogs homeward as we turned ours out toward Eureka Sound and the unknown.

Down the rest of Bay Fjord and up Eureka Sound the going was good. In three camps—Camps Isachsen, Schei, and Allen—or four marches, we attained the northernmost end of Fosheim Peninsula at the mouth of Greely Fjord. All along the way we had seen musk-oxen on the hills on both sides of the sound, and we had killed all we had needed for food. Even on the ice we found their tracks for miles. At midnight of the 18th we saw the midnight sun for the first time, so we called our stopping-place Midnight Sun Camp. We knew we were near musk-oxen by the way our dogs behaved, but we did not see any.

The next morning we had not driven a mile before E-took-a-shoo, who was in the lead, swung up over the bank along the ice-foot on which we were traveling, and our dogs followed. There before us, not fifty yards away, was a big herd of musk-oxen, all bunched up to give fight. Because I had promised my companions that as soon as we found a goodly flock of the big animals in a place comfortable for an extended camp we should kill enough to keep us supplied with food for a week or ten days, while we rested and fattened our dogs preparatory to entering upon the exploration of the new lands about which we knew nothing, I told them that we should kill the entire herd.

To do so seemed wanton slaughter, for when the kill was over we had brought down twenty-one musk-oxen—a few only yearlings; most, two- or three-year-olds. But we had three teams of hungry dogs, and a team of eight or ten dogs easily devours a musk-oxen at a meal, even though it be almost as big as a two-year-old steer. At the end of seven days the meat was gone, except for a little that we carried on our sledges.

We stayed until April 26th at this camp, Camp E-took-a-shoo, well fed and comfortable. E-took-a-shoo built at this camp a substantial, roomy snow house, the last we needed on that trip, and we lined it throughout with the many skins of the musk-ox we killed. Every day we went tramping about the great rolling plain that comprises the northern end of the peninsula. I collected dry plants and fossils assiduously. Of the latter I found many, both Paleozoic and Mesozoic. The peninsula teems with life. Hundreds of hares, scores of ptarmigan, and herds of musk-oxen feed on the slopes of the hills and the valley plains. The country

is a veritable musk-ox pasture. From the top of Mt. Hovey, a proud eminence that rises up over the point of the peninsula, I counted over 200 musk-oxen in sight. Wolves, foxes, ermine, and lemming are common on the land. The snow along the coast is beaten down in a wide path by passing bears.

During our stay there the sun shone bright and clear and warm, so that we dried a musk-ox skin for each of us; hardly a breath of wind came to annoy us. In summer it must be a beautiful place.

April 26th we set out again. Our dogs were so well fed that they were lazy, and we progressed slowly for several hours. As their laziness wore off we gained speed. By the time we made Camp Fosheim—beside an iceberg—the dogs were going well. All along the way we saw game of all kinds.

Beside the iceberg at Camp Fosheim we left all the equipment we should not need, for a short dash up Canon Fjord. On the shore near us four musk-oxen were feeding. We agreed to leave them to kill when we got back, that we might have a good feed for our dogs before crossing Greely Fjord. The going up Canon Fjord was very good, and we sped along with a dash, making in eight hours the distance that it had taken Fosheim and Raanes a week. We made a kill of musk-oxen at a valley near the head of the fjord and stayed there over the 28th. Musk-oxen were numerous all about us. A cow in a small herd within a mile of our camp gave birth to a calf, the first we had seen. The stay there was most pleasant indeed, marked by our first sight of the cheery little snow-bunting, the only songster of the Northland, who afterward was with us nearly every day.

E-took-a-shoo and I built a big cairn on the sandstone ledge of a little cape that ran out into the head of the fjord. We found on this cape the ruins of two Eskimo stone houses, and from the great slabs of those structures we built, in part, the big cairn. In a bottle in the foot of this cairn we left a record of our achievements up to that time. On the back of the record I indited a stanza of our most popular Illinois song. I wished to put up a conspicuous, permanent cairn at this point, that any one coming into the fjord in the future could readily find it and verify my having been there.

In one day's march we again got back to Camp Fosheim, and went in search of the four musk-oxen that we had left for our return. We could see only one dark mass where we had left the four, but we supposed the other three were merely out of sight behind some little ridge or hummock. We were much surprised to find, when we got to it, that our one dark spot was a *dead* musk-ox, and that the others were gone. During our absence up the fjord, a pair of wolves had attacked one of the herd, a full-grown bull, had succeeded in bringing him down, and had eaten part of his carcass. The other musk-oxen had fled. The story of the struggle was written legibly in the snow; there could be no doubt of its character. One of the wolves, apparently the female or smaller, had attracted the attention of the musk-ox by attacking his head, while the male, the larger, had secured a hold of his hind quarters and dragged him down. The wolves had sneaked away upon our approach, for the places where they had been lying were still warm. Though we had been cheated out of the fresh meat we had expected, we had definitely estab-

lished the fact that a pair of wolves is a match for a full-grown musk-ox.

From Camp Fosheim we set out northwest toward the unexplored coast of Grant Land. To our right Greely Fjord extended, misty and mysterious, the unknown portion of our trail. Before us opened a fjord, how long or how large we could not tell. We headed for the mouth of this fjord. The snow lay soft and deep; after a long, slow drag in which I broke trail all day with snow-shoes, leading my dogs, we came near enough to search the hills with our glasses. The scenery was grand, but the prospect was dubious. Grant Land is a land of high relief; great dark mountains, some round-topped and snow-covered, some sharp-peaked and black, with gleaming glaciers coming down most of the valleys, constitute the dominant tone of the landscape; but of game we could not see a trace. We made camp just at the mouth of the fjord, in the shadow of a frowning, forbidding cliff.

We entered the fjord the next morning, I leading the way on my snow-shoes to break the trail as on the day before. Until noon we could see no trace of game. Shortly after twelve we stopped to rest, and finally with my big Leitz glasses we descried a musk-ox walking along the crest of a ridge far within the fjord. Then we saw another, and still another; then many; finally we could count over sixty, and knew there must be more about. We were overjoyed, for now we were sure that the unknown land had game and food for us.

As we started out again, I could not help a brief muttered prayer of thanks—"Lord, Thou hast done well with us"—and took my place at the head with renewed strength. The way to the musk-oxen was long and hard,

though, and it was six o'clock when finally we stopped our sledges to start up the hill after the game; I was so tired, and my legs ached so, that I promised myself most fervently that if I ever got back to the land of carriages, automobiles, and street-cars, I should never again walk one step more than absolutely necessary.

I did not believe that I should ever be able to get to the top of the mountain where the musk-oxen were, for they were at least two miles from our sledges, and the mountain was about 2,000 feet high. To make matters worse, the snow lay deep everywhere. We walked up Indian file, E-took-a-shoo in the lead, Esayoo next, and I last. We made a broad, deep trail. Even with the trail broken, I found it hard to keep up with my men. Just before coming up to the musk-oxen, I thought half seriously, half humorously, "Lord, Thou hast done well, but for the sake of my weary legs, Thou couldst have done better." I had hardly given form to the thought when Esayoo suggested that we go beyond the herd before shooting, in the hope that the musk-oxen might try to escape in the direction we had come and thus get nearer our dogs. If we made our kill we should have to go back after our dogs, lead them up the hill, and, after feeding them, take them back again, an almost impossible walk for my weary legs.

We acted upon Esayoo's suggestion and stalked around the herd before we began shooting. At the first volley the musk-oxen broke their square and fled. To our great joy, the whole herd started down our well-beaten path. We could see only part of the way, because a rise in the slope cut off our view, but as we followed after them as fast as we could our elation increased as we went, for they had gone right back on our track. Finally

we came upon them at bay on a little cliff just above our dogs and sledges. Our dogs were frantic to get at them. It was an easy matter to shoot all we needed. After we had killed them, all we had to do was to roll them over the cliff down to our sledges, instead of tramping quite up to the top of the mountain again, as we should have had to do except for Esayoo's sensible suggestion. As I crept into my cozy sleeping-bag that night I gratefully gave shape to my last thought, "Lord, Thou hast done splendidly." In the bright sunshine we slept on our sledges without tent or other shelter.

The next two days we spent exploring the new fjord, which I named Borup Fjord in honor of my lamented friend, George Borup, to whom our expedition was a memorial. Borup Fjord is a magnificent bay sixteen miles deep, with two tributary arms on the east side. It is flanked on either side by high mountains, some Alpine in character, with blue valley glaciers coming down between the dark, sharp peaks. On the plateaus and domes inland the snow lay deep everywhere. Numerous large herds of musk-oxen roamed over the slopes, indicating an abundant pasturage. At our camp Esayoo and I scraped away the snow with our snow-shoes in several places; in all we found a thick, close carpet of vegetation. I should like to see these shores in summer when the snow is melted.

In the exploration of Borup Fjord I had to break the trail on snow-shoes every foot we went; the snow was over three feet deep on the level, and sledging, even with empty sledges, was heavy. My legs seemed ready to drop off.

Yet the days seemed short, so many interesting things

engaged our attention. The first seals we had seen upon the ice lay basking in the golden sunshine—eight of them; Esayoo and E-took-a-shoo tried for them, but with no success. Though fresh bear tracks were numerous, we saw none of these "brethren of the icebergs." A snowy owl swooped for a lemming scurrying across the snow, but failed to get him. Spring was coming into the Northland, and life was everywhere stirring actively about again.

The large number of musk-oxen in this new land and the evidence of abundant game along Greely Fjord encouraged us to expect little difficulty as far as food was concerned; but when we started up Greely Fjord we could not help feeling somewhat doubtful as to the going. The snow was very deep, and so soft that it balled up badly between the dogs' toes. For two days we snowshoed beside our sledges. Then the going got better, for as we neared the head of the fjord the surface was hard enough to bear the weight of the dogs and sledges, because the wind had packed the snow more. We killed no game, for the sides of the fjord were almost precipitous walls of gray and brown sandstone and gray and blue limestone, so that we could not readily see over onto the hills.

A small narrow fjord opens into Greely Fjord on the south side. At the head of this little fjord a large glacier comes down from the ice-cap, but does not quite reach the sea. On the north side of the fjord we discovered the mouth of a large fjord, so cut off by projecting capes that we could not see more than a few miles into it. Near the mouth we killed two musk-oxen for dog food, and made camp. With rare good luck, I found that we had made our kill on a richly fossiliferous

limestone cliff, from which I collected a rather satisfactory group of corals and brachiopods. Game and vegetation were abundant here also.

From this camp we set out to explore the fjord. From my first sight of it I determined to name it Tanquary Fjord, and a range of high mountains about the head of the fjord, Osborn Mountains; the latter of these I named in honor of my friend and patron, President Henry Fairfield Osborn of the American Museum of Natural History, and the former in honor of my fellow in science on the expedition, the true friend of many years, Dr. M. C. Tanquary. The bold headland at the mouth of the fjord I named Cape James, in honor of "Prexy" Edmund James James of the University of Illinois, who has long been my inspiring friend; and the mountain opposite, Mt. Bayley, to honor my friend and mentor, Dr. W. S. Bayley, also of the university. Because of my deep admiration for Louise Homer, her of the sweet voice, I named the land between Borup Fjord and Tanquary Fjord Louise Homer Land. Naming the new capes and bays and mountains and glaciers and islands was some of the best fun I had on my lonely trip.

The exploration of Tanquary Fjord was the most important work of my journey. We spent four days at this task, but it was well worth the time. Tanquary Fjord is deep, extending almost thirty miles northwestward into the very heart of Grant Land, in the general direction of Lake Hazen. It is bordered on both sides by high mountains, of which those on the south side are sharp and steep, those of the north shore more sloping and rounded. Numerous glaciers reach the waters of the fjord, but they do not discharge many icebergs. The scenery about the head of the fjord is wild and

picturesque, as grand as any I saw in the North. A large valley extending toward Lake Hazen opens out upon the fjord at its head. On the shore about the mouth of this valley we found the ruins of ancient Eskimo habitations; I feel sure that the old Eskimo route across Grant Land was up this fjord, and then up the valley to the lake. We climbed a high mountain the better to survey the pass, and were sorely tempted to make an attempt to get to Lake Hazen by this apparently easy route. We finally gave up the idea of doing so, because I wished to go over the same route that Lieut. J. B. Lockwood and Serg. D. L. Brainard, of Greely's party, had traversed many years before.

Musk-oxen were plentiful along the shores of the fjords. We saw many tracks of bear, caribou, and wolf, and of hares and ptarmigan the number was legion. Fox and ermine tracks were not very common, but lemming tracks netted the snow. We killed six musk-oxen, two at one of our camps and four at another. On the plateau where we killed the two we found the ruins of Eskimo caches and fox-traps, further indicating that the Eskimos had one time lived on the shore of this fjord.

May 16th we reached the head of Greely Fjord, the very day that Lieutenant Lockwood and Sergeant Brainard started homeward in 1883, thirty-two years before. The head of the fjord had not changed one jot, one tittle, so far as we could tell by comparing Lockwood's excellent sketches which I carried with me, with the view that stretched before us; every dark cliff, every patch of snow, every gully in the slopes, appeared unchanged. We followed their route and camped on the same lake as they did many years before.

And this little lake is, I feel sure, one of the dreariest, loneliest, coldest spots on this old globe of ours. It is about fifteen miles long and two miles wide, bounded on the south side and on the north by almost vertical cliffs over 1,500 feet high, and terminated at either end by bleak, blue glaciers. In my four years' experience of silent vastnesses, and lonely distances, in the North, I never felt so submerged in the forsakenness of the Arctic as I did in this prison-like lake-bed. I cannot imagine anything lonelier than this far northern crypt at Arctic midnight when a northern blizzard rages. It would be the best hiding-place on earth, I think; and if Santa Claus needs a safe place convenient to his North Pole home to store his Christmas gifts without fear of thieves, he cannot find a better one than this lake. They would be safe as in a vault.

At the head of the lake, a narrow cañon-like pass between the face of the glacier and the high cliffs afforded us escape from the prison; but we were forced to prepare a way with our ice-picks, over the debris of blocks broken from the glacier. We worked at this several hours before we were able to get by. Then we entered a cañon, of which the cliffs towered sheer above us over 1,000 feet. We sledged along on the frozen stream at the bottom of this cañon for several hours; in the dark gloom the air was very cold, and we were anxious to get out onto the slopes above. When at last we came to a fork where a tributary gorge entered, we stopped to consider whether to attempt the tributary or the main cañon. E-took-a-shoo reconnoitered the tributary gorge, while Esayoo and I made tea to warm us a little. E-took-a-shoo reported that he felt sure we could easily get out by way of the little gorge.

After tea we started up the cold, rocky, narrow gorge. Four times we had to unload our sledges and carry everything over the rock dams that had slidden across the gorge. Finally we came to one so steep and high that Esayoo said it would be wisest for us to investigate farther on foot, to determine with certainty whether or not we could get out, before we carried all the equipment and sledges up over the barrier. While E-took-a-shoo watched the dogs, Esayoo and I scouted ahead. After a five-mile walk, we came at last to the end of the gorge and found that it ended in a steep, rocky wall up which we could not take our sledges. Much discouraged, we retraced our steps to the sledges, and after a consultation headed back down the gorge. Several hours' hard traveling brought us to the main cañon again, and we pitched camp.

The prospect began to concern us. For three days our dogs had had no food; the going had been hard, the weather cold. We could find no way out with our dogs and sledges. The following day I suffered a slight attack of snow-blindness, so I could not travel, and our concern increased, but Esayoo and E-took-a-shoo found a place where they thought we might possibly get up on the plateau. We built a cairn on a great flat-topped rock at the forks of the cañon, left a record in it, cached some of our small store of petroleum and every bit of equipment with which we could dispense, and early the next morning hit the trail again. All day we toiled, and when the sun began to swing into the north finally got up onto the plateau. Though we saw spoor of musk-oxen, none were fresh; our dogs were worn and weak and suffering; unless we found meat quickly we should be in a precarious situation.

We sledged along a broad flat valley on the plateau, until we came to a small lake, surrounded by high hills. We crossed the lake and made camp at its upper end. The cold was intense and the wind blew a gale. Our poor dogs were fast failing. After tea, Esayoo and I set out in different directions in search of musk-oxen; though we were gone for hours, we found no trace of them or any other game.

All night the wind blew. When we dug our dogs out of the snow the next morning we found that nearly all had eaten their traces and that they were almost too weak to move. I had to put two of mine on the sledge, while Esayoo and E-took-a-shoo each had to take one of his own. Esayoo and I started out ahead over the hills, pushing the sledges to help the dogs at every little drift or rise. We got to the top of the divide and started down. Going down the slope on the other side was easy enough, for the sledges went almost of their own weight. Near the bottom, as we swung around a ledge of rock, we nearly collided with a big musk-ox. Our dogs forgot they were weak and tired, and set wildly after him. Then we saw two more, then three, and finally a herd of eight bunched up to fight us off. Our dogs rushed in upon them, and in a few moments we had shot them. When E-took-a-shoo came in a few minutes later we were able to greet him exultantly with an abundance of meat. Our ordeal was over.

We made Camp Remington at this place, and stayed over for a day to rest our dogs and to give them a full feed. We were far up toward the divide of Grant Land, and Mt. Arthur, a snow-covered, rounded dome, rose like a barrier before us. While we were camped there we looked everywhere for the lake that, according to

Lieutenant Lockwood's map, should lie at the foot of Mt. Arthur, but could find nothing but a great plain on the site.

After the rest and the abundance of food at Camp Remington, we were again ready for anything that might happen. We headed due north, traveling along the left of Veery River until we passed Mt. Arthur. We searched eagerly for the cairn that Maj. A. W. Greely built at its foot in 1882, that we might take back with us the record that he left there then, but we were disappointed in our search.

From the top of a large mountain north of Mt. Arthur, which I climbed while Esayoo and E-took-a-shoo made tea about four o'clock in the afternoon of May 22d, I first saw Lake Hazen, some ten miles to the northwest of us. We knew that we were approaching its upper end, but had not caught a glimpse of it before. The view to the north was truly wonderful. The Conger Mountains, nearly all round-topped and white with snow, lay in the foreground like a snow wall, Mt. Connell and Mt. Biederbick rising distinct above the rest. Behind them, farther away, rose the high, black, sharp peaks of the United States range. To the northeast lay Lake Hazen, a snow-white plain, set among the snow-clad hills. But in all the landscape, the wide valley at the head of the lake flanked by steep walls was the most spectacular feature. Not a bit of snow covered the plain or the cliffs about, and white steam was rising from the upper reaches of the lake and the pools of the plain, as from a witch's caldron. This dark, steaming valley set among the white, calm hills looked like a veritable inferno.

After a careful survey of the way ahead of us I hur-

ried down to Esayoo and E-took-a-shoo to tell them the good news. While we drank our tea we talked over our route, and decided to try to get to the head of the valley, if not to the lake, that day. Soon after we started, the valley of the Veery River narrowed down to a mere gorge, across which numerous landslides had thrown high rock barriers. Eighteen times that afternoon we had to unload our sledges and carry our equipment over such barriers. By the time we reached the end of the gorge, we were all fatigued and cross, even the dogs being in exceedingly bad humor.

On the flat where we pitched camp at the mouth of the gorge hundreds of Arctic hares were feeding. They were not at all timid, and came up within a few yards of our sledges. Esayoo's whole team of dogs broke loose and chased pellmell up the mountain-side after a pair of the fleet white hares. The dogs came back soon, all except one. I felt sorry for old Esayoo, upon whom the hard trail had been most wearing that afternoon, and went out to seek his dog. After about an hour's search I found it, its trace caught between two rocks, and brought it back to camp. Supper that evening was one of the best meals I have ever eaten.

The next day was hard indeed. We sledged down the flat river valley over rocks, gravel, sand, and all kinds of going. Often we waded through water up above our boot-tops; at other times we were in mud. For half a mile the upper end of Lake Hazen is very shallow, and there the ice was all rotten, in places quite melted. It was the most unpleasant going we had experienced since our first day out from Etah.

We finally passed the open water and got on good ice. We made camp beside a small islet near the head of

had to move. He headed for an iceberg about a half-mile from camp, and made it before the dogs "treed" him. Dressed only in their underclothes, boots, and rifles, my two companions hurried out after him. I stopped long enough to augment my costume by a pair of snow-shoes, my hunting-knife, and my camera. When I got out to the bear the dogs were worrying him sadly; they seemed to annoy him grievously; every hair on his body was dripping perspiration, and every few moments he threw his great head into the wind to take a sniff of its ozone. I photographed him to my heart's content, and then put a .32 Remington bullet through his skull. His soft, golden-white pelt was beautiful.

From Camp Marvin we made a visit to Fort Conger, the site of Major Greely's headquarters. We camped there one night, boiling our meat and tea on the old Army Range No. 1 which still stands in good condition, though rusty, in the kitchen, the only part left of the headquarters' house. We made excellent coffee from some we found in a sealed tin in the old kitchen; strange to say, it retained its aroma fresh and strong; we enjoyed it very much, and when we left, Esayoo took several pounds with him. All about the place, even in the kitchen, we found relatively fresh spoor of many musk-oxen. To search about the ruins was very interesting, though not much is left of all the equipment abandoned by the expedition. The tablet put up to the memory of C. W. Paul and J. J. Hand, of H.M.S. *Discovery*, members of Nares's North Greenland Exploring Party, who died of scurvy while out on the trail, and who were buried at Hall's Rest on Polaris Bay, stands clear and uninjured by storm and wind.

In one of the shanties that Peary's Eskimos have built of the material of old Fort Conger, we found a series of records left by MacMillan in 1909, when he stayed at the place for two weeks or more, taking tidal observations. They had been written in one of Major Greely's old note-books. I made copies of them, added a message of my own, and replaced the book. Because it was May 30th, Memorial Day, I added to my note a quotation in memory of C. W. Paul and J. J. Hand, heroes of Arctic service, and the brave fellows of Major Greely's party who lived here for two years, and left only to die on the bleak rocks of Cape Sabine.

And only the Master shall praise us, and only the Master shall blame,
And no one shall work for money, and no one shall work for fame,
But each for the joy of the working, and each in his separate sphere,
Shall draw the thing as he sees it for the God of things as they are—
KIPLING.

As on Lake Hazen, we were disappointed to find no one at Fort Conger to meet us. We had confidently expected to find a party in camp there. As we crossed over from Bellot Island to Fort Conger, a gull shrieked somewhere out in the rough ice, and we were sure for a while that we had heard dogs. But time showed that no one had come.

From Fort Conger we drove to the head of Discovery Bay, where we had seen a herd of musk-oxen on the mountain-side when we made Camp Marvin. The musk-oxen were far up the mountain, almost to the crest. E-took-a-shoo stayed down on the ice to watch the dogs while Esayoo and I went up after the musk-oxen. We each of us took one dog. In the warm sun-

shine the climb up the hill made us both pant and perspire, but, realizing that these would probably be our last musk-oxen of the trip, we were not averse to the exertion. We let our dogs go when we were over a quarter-mile away from our quarry. Contrary to their usual custom of grouping in a square to fight off the dogs, these musk-oxen started to run up to the crest. Fearing that we should lose them, Esayoo said we must shoot at once. With his big .35 Winchester he dropped the foremost just as the big fellow passed a gap in the rocks; with my .32 high-power Remington I got the next; Esayoo took the third; I the fourth; and shooting alternately, we killed the whole herd of eleven, including three yearlings.

E-took-a-shoo, when he heard the firing, let slip the dogs we had left behind, and soon they appeared on the scene, hot and tired, but ready for a good feed. Not long after, E-took-a-shoo came, too. We fed our dogs the meat of three animals and then cut up the rest, taking out all the bones. Since we were quite certain we should find no more musk-oxen, we reserved all the tenderloins, the porterhouses, the hearts, and some of the other choice pieces for our own food for the rest of the trail. Esayoo cracked all the marrow-bones and kept the marrow, a most highly esteemed delicacy among the Eskimos, to take home to Anowee, his wife. Anxious to get as much of the remaining meat as possible down to our sledges, we lashed it into the three biggest of the musk-ox skins, hitched our teams to them, and skidded down the mountain-side. Needless to say it was a unique ride. The improvised toboggans rolled and twisted and turned, so that we kept our seats on them only by hanging on for dear life. The dogs did

not stop for drifts or ledges or puddles; they seemed to enjoy the mad dash down the mountain-side as well as we did.

This herd of musk-oxen was the last we saw. After we got our sledges reloaded we returned to Camp Marvin, where we slept, before starting on our homeward journey. Leaving Camp Marvin early June 3d, we headed directly across Lady Franklin Bay to Cape Baird. The ice was rather rough, but E-took-a-shoo, who led the party, was adept at picking out the smoothest trail possible. Because the ice around Cape Baird was crushed and piled up chaotically, we were several times forced to sledge up on the land to get by. Most of the afternoon we traveled slowly through the rough ice, but about six o'clock we struck smooth ice that extended the whole length of Kennedy Channel, so far as we could see from the heights of Cape Defosse, at the foot of which we made Camp Archer about nine o'clock that evening.

Early June 4th we broke camp again, eager to get down to Cape Constitution, where Mac had promised to make the first cache for our return. We were in need of no supplies, for we still had oil, tea, and sufficient meat, but we expected to find letters there, too. We made splendid time. The ice was smooth as glass. Two wide leads, over which we ferried on ice-cakes, indicated that the ice was breaking up, an added incentive to strike the Greenland shore as soon as possible. Not until we were near Hans Island did we encounter any serious obstacle.

Just a mile or so north of that little island our progress was stopped by a monster pressure-ridge about forty feet high that seemed to extend quite across the channel.

South of this ridge the ice was thrown up in great mountain-like ridges and cordilleras of ice-piles, the most chaotic expanse of rough ice I have ever seen. We tumped our loads and sledges over the first barrier ridge. After we hitched our dogs to the sledges again, we proceeded toward Hans Island; after three hours' toilsome work we had not yet reached the island.

We made camp on a flat floeberg that afforded us a large enough smooth surface to set up a tent. After supper we all climbed to the top of the island to survey the route ahead. The prospect was anything but pleasant. As far as we could see with our glasses, the ice was as rough as that we had just passed through. Finally we decided to drive around the west end of the island and head for Franklin Island, in the lee of which we might find some smooth ice.

The next morning we again broke camp early. By carefully picking our way we got to the southwest corner of Franklin Island about two o'clock. Along the west and south sides we encountered such rough ice that I despaired of getting through. E-took-a-shoo took the lead and picked the way. I remember that part of the trail as a bad dream. We pulled and pushed and tugged at our sledges; sometimes we had to lift them over almost sheer walls; sometimes we had to pull them out of pools of water; sometimes we had to dig them out of soggy drifts of snow. We were stripped down to essentials so far as clothes went, reeking with perspiration, thoroughly soaked from falling into or wading through numerous pools. There was no ice-foot along the island, for the ice was pushed up over a hundred feet on the slopes. In seven hours of utmost exertion we made only three miles.

Then just as we were about to make camp, all tired out, we struck smooth ice, new and thin and treacherous, but a splendid thoroughfare. We took heart again and decided to try for Cape Constitution. Except for breaking through the young ice occasionally, and having to go around a number of pools and to ferry over a couple of leads, we made rattling good time. A great lake of open water extended westward from the cape. We went south of it.

Esayoo, who led the way, skilfully selected the safest, easiest route, and we were at the cape in two hours. We stopped to look carefully for the flag that was to mark the cache, but could see none. After searching all about the cape, we finally concluded that Mac for some reason had been unable to get the supplies to the cape.

We started out again. We had not gone a hundred yards when Esayoo called out, "Sledge tracks!" and pointed to a little patch of snow on which both dog tracks and the traces of sledge runners were clearly distinguishable. We examined them and concluded that they had been made that day.

Great was our excitement, eager our anticipation. Even our dogs felt it, and, sniffing at the tracks, were wild to set out in pursuit. At Esayoo's suggestion that we might catch up with them if we did not camp, we started out again. Driving his dogs at their best speed, E-took-a-shoo led, Esayoo and I following him close. As we drove we scanned carefully the tracks we followed, to find some clue as to whom the sledges belonged. We felt sure that Oobloyah's was one of them, for we could recognize the track of his sledge. Who the others were we could only guess, but we knew that before long we should see them.

Yet we were not prepared to find them as soon as we did. We were crossing Lafayette Bay after about a half-hour's driving when we heard a rifle-shot near us. Our dogs went wild and headed at right angles to our course, directly into the bay. Not a half-mile from us, nestled down at the foot of the high, gloomy cliffs, gleamed the little brown tanalite tent we knew so well, with sledges grouped about it, and a white man and some Eskimos.

In less time than it takes to tell we were at the camp. Fitz, for it was he, rushed out on the ice to greet me and to welcome me back. Oobloyah and Arklio were the others of the party, all of them our good friends, all glad to see us.

They took charge of our dogs and sledges, the while our tongues wagged busily when our mouths were not filled with the fruit and cakes and other good things they pressed upon us. I was glad to talk American again, glad to hear that all was well at headquarters, glad to get all the news that Fitz gave me.

The party had intended to meet us at Fort Conger, but, having encountered the open water at Cape Constitution, had wisely decided not to go beyond it. The open season was at hand, and it would not have been discreet to proceed, for, even if my party had been in difficulty, our situation would not have been bettered by the addition of still others unable to return. Instead, Fitz planned to put in caches at prominent points along the return route.

Had our party been a day later, we should not have found Fitz and his men at Cape Constitution. The hunting there was not good, whereas back at Cape Calhoun seals were numerous on the ice, and

bears not uncommon, so they had decided to go there.

We stayed a day at Cape Constitution. It was a merry party that headed back across Peabody Bay. The trip was pleasant, for the weather was fine, the going fairly good, and game abundant. In due time we reached Cape Kent, south of the Humboldt Glacier. We made no camp after reaching land until we got to the mouth of the Mary Minturn River. Here three Eskimo families were encamped on the site of an old Eskimo village, uninhabited so long that none of the tribe could remember when any one had lived there. We stayed there but a day to give our dogs rest, and me an opportunity to make a brief survey of the plants now beginning to bloom on the warm, sheltered ledges where the snow had melted. Apparently during the summer this village is a pleasant place, for the vegetation is luxuriant and the ruins of a number of large Eskimo stone houses attest the fact that many people have lived there at one time.

But we were eager to get back, so we soon set out again. Stopping only at Rensselaer Harbor, to visit the site of Doctor Kane's expedition, in one march we traveled from this village to Anoritok, where many of our Etah Eskimos were encamped for the summer hunting-season. Jot had been there hunting until only a few days before, and Hal had been up to doctor a sick Eskimo, but they had gone home to Etah ahead of us. We stayed a day at Anoritok, and then started for home.

It was the last day's march. At Lifeboat Cove, about ten miles from Etah as the crow flies, we went up overland. As we started up it began raining.

Though our drive down the valley to the terrace above headquarters was in the worst weather we experienced on the trail, we did not mind it. We were veterans of the trail now, and weather did not seriously affect us.

We almost tumbled down the slope to the house. Our dogs seemed more eager to get back than we were, and stopped for nothing. The whole village turned out to meet us, and it was not long until all my companions Mac, Tank, Hal, Jot, and Allen, and all the Eskimos, had greeted me and welcomed me home. I had come to the end of the trail.

The trip had been eminently successful. We had accomplished nearly all we had set out to do. In addition to my notes, I brought back with me valuable collections. None of us had suffered any serious hardships, we had lost very few of our dogs, and we had come safe and sound home.

To old Esayoo I am glad to give the lion's share of the credit. Throughout the trip he had been cheerful, helpful, interested; his good sense and judgment had kept us out of trouble. He had been throughout the journey, no matter what the circumstances, a kind, pleasant companion. He is a thorough gentleman, a boon companion of the trail. To E-took-a-shoo I wish to give due credit, too. His unfailing good humor, his rare hunting ability, and his excellent driving, all had contributed immeasurably to our success.

I wish to close my modest chronicle with this tribute to them, my good companions, true fellows of the trail, gentlemen unafraid.

APPENDIX III

ACROSS THE ICE-FIELDS OF MELVILLE BAY

W. ELMER EKBLAW

THE *Danmark*, the second ship sent to our relief, lay frozen in the ice near North Star Bay during the winter of 1916–17. She had reached the harbor after mid-September, a month too late to insure a successful escape from the ice-barred reaches of Baffin Bay and Smith Sound. She could not get out of the ice before August the following year, and with a limited supply of coal, she might have difficulty even then in forcing her way through.

Doctor Hunt and I had been aboard her from the time of her arrival. Her officers made us welcome, and as comfortable as limited quarters permitted. They were kind, courteous, and hospitable. Most of them could speak a little American, and knew enough of American customs and characteristics to play a good hand at friendly poker. Food was abundant, and the cooking good.

But we were eager to be back on home lands once more, and with orders from Mac to proceed home by sledge that winter, we were glad when Knud Rasmussen, who had agreed to accompany us, sent us word very

early the morning of December 18th that we should start that day for Danish Greenland. We had expected to start earlier, but delay in the post from Etah, and a heavy wind and snowstorm, had kept us to the boat and the station. We had been ready for over a week to start at the word from Rasmussen that he wished to leave.

Rasmussen had spent the month of November bear-hunting on Melville Bay, across which we would sledge from Cape York to the settlements in Danish Greenland. He had come back reporting good sledging, and much bear meat cached along the way, conditions favorable to a rapid and easy traverse of the long ice-fields to cross the bay. He felt sure that we should spend Christmas in Tasiusak, the northernmost Danish station, and New Year's in Upernavik, the home of the governor of the northernmost colonial district.

Soon after his messenger brought us word that we should start that day, he himself came aboard the ship to see that all our arrangements were complete, and to get our baggage. The captain of the ship and his officers had arranged a farewell breakfast for us, and our departure was delayed until this had been eaten and all farewells said.

Six sledges were to form our train to the Danish colonies, but when we left North Star Bay, five others set out with us to go as far as Parker Snow Bay to get some coal that the *Cluett* had left for Rasmussen's station the preceding summer. Among these five sledges was that of Doctor Wulff, the ill-fated Swedish ethnologist and botanist who has since perished of starvation in the far North. It was his first experience at driving dogs, and that night, when we made camp

at the mouth of Parker Snow Bay, though he did not come in until four hours after the rest, he pluckily kept the trail despite fog and darkness, until he reached his goal.

Our entire party was encamped in two tents, rather crowded accommodations for so many, and we were glad when we left the next morning that we should no longer be so many the rest of the way. From this camp only those sledges that were to go the whole distance continued the way; the rest loaded with coal and returned to North Star Bay.

From Parker Snow Bay to the settlement at Cape York, the going was heavy, and the snow everywhere deep, often with water beneath it into which the sledges sank, and stuck so that the dogs could not pull them out unaided. Heavy flurries of snow, in which it was difficult to pick our way, further retarded our progress; though we left Parker Snow Bay at eleven o'clock in the morning, we did not get into Cape York until long after midnight. Ordinarily, with good going, the distance could have been covered in half the time.

We stayed at Cape York feeding our dogs and ourselves until midnight of the twenty-first. At the "breakfast" that I ate that morning soon after Rasmussen had announced that we should start, I made way with seventeen whole raw dovekies, a gastronomic record for me. From Cape York we should find no Eskimo villages until we got to Cape Seddon, quite across the bay.

The Eskimo reported heavy going ahead of us—much "pootenook," that is, heavy snow with water on the thin ice under it. We started away at four o'clock, and not long after we began to strike deep snow, as yet with

no water beneath. The weather was clear, calm, and crisply cold, with a temperature of more than 40 degrees below zero, Fahrenheit. Because our dogs were fresh and rested, we made fairly good time, despite the deep snow, until we had passed Salvo Island.

After we left that island, we soon struck the "pootenook," and the going was fearful. We waded through thin-crusted snow nearly two feet deep, the lower portion saturated with water, and we had to push the sledges along to help the dogs. Doctor Hunt and I tried our snow-shoes, but they helped us only in places. Such going, at such low temperature, soon wears out both dogs and men, and we had not gone far before we had to make camp. A low floeberg afforded us a camp-site out of the slush.

The next day we got no farther than Camp Melville, the going all day having been through "pootenook." In four marches out from our camp at Cape Melville we made so little distance that in the dim noonday twilight we could still discern the black cliff, "Imnadooksuah," just to the east of the cape, and we wondered if we should ever leave it behind.

Men and dogs were discouraged. Food was not abundant, and the going exceedingly hard and wearisome. The twenty-fourth day of December was particularly hard. Doctor Hunt snow-shoed until the tendons in his ankles became chafed and inflamed, and he developed such a case of *mal du racquette* that he could hardly walk farther; I froze both my big toes, and wore two big sores on the back of my ankle where the thong in my boot passed across. A bitter cold wind blew down from the ice-cap to the northeast, and a chill damp snow-fog enveloped us as the afternoon wore on

and darkness submerged us. When time came to make camp, we could not find for a long time any iceberg in the lee of which to shelter our tents from the wind.

When finally we found one we were well-nigh exhausted; in the heavy fur clothing that the bitter cold wind had necessitated during the march, I had perspired until my clothes were wet through; and while we made camp I got so chilled that I was nearly overcome; I have never been so cold as I felt then. Even though we soon got our tents up and our little Primus stoves going, we were almost frozen.

Such a Christmas Eve as that was! Huddled together in our little tents that barely sufficed to keep the drifting snow out, we cooked the scant supply of bear meat and tea for our supper. Then Rasmussen produced from his sledge-kit two boxes of canned pears that he divided among the party, and I brought forth a package of dates sent me in a gift box brought me from my fiancée by the *Cluett* the year before, which I had carefully saved for such an occasion. From our bear meat and tea, a little frozen pemmican, and the pears and dates, we made our Christmas supper. After we had cuddled down in our sleeping-bags, tired, and frozen, and worn, Tobias Gabrielsen, a Danish Greenlander in my tent, and I whistled "Stille Nacht, Heilige Nacht," which we both knew; then we exchanged Christmas greetings with the others of the party and fell asleep.

The days following are a nightmare as I remember them. The going continued hard, the weather cold; our food-supply was almost exhausted, and our dogs were on less than half rations though they needed more than the usual amount of food because of the severe

cold and the hard going. We were still many miles from Cape Seddon, when the evening of the twenty-eighth we were so near exhaustion, and failure of supplies, that Rasmussen deemed it necessary to adopt relief measures at once. Selecting two teams of the best dogs, and the two best drivers of the Eskimo to take him, he set out at midnight on a forced march to Cape Seddon to get relief. When he left, he told the rest of our party to remain where we were, until relief sledges which he promised to have out to us by daylight of the next day should reach us. Somewhat dubious of the plan, we agreed.

The next day came and went, but no relief appeared. We had one scant meal, our dogs nothing. The situation seemed threatening. About eight o'clock in the evening three of the Eskimos decided to go, before their dogs died. Hoping that the promised relief would reach us, I urged the Eskimos to wait at least until the following morning. I pointed out the fact that in the darkness of the night before Rasmussen and his men had probably lost their way for a while, and that if our party were to set out on their trail we should but be lost too. Better, I said, wait until the next day, when the twilight would give us light enough to see the land, at any rate; besides, the relief sledges might come while we waited. Finally I prevailed upon the Eskimos to wait until morning. At midnight I woke Doctor Hunt and told him of the discussions I had had with the Eskimos, and of my plans. He heartily approved of the course that I had suggested to the Eskimos, and fell in cordially with our plans.

At six o'clock the next morning we set out. We left everything behind us except one tent and the little

kerosene we had left. When twilight appeared we saw at once that Rasmussen's party had headed out to sea; so we immediately shaped our course toward land. We could just descry Cape Seddon on the horizon. We felt sure that should relief sledges follow back over Rasmussen's trail, they would know at once where to find us when they came to the place where we turned off, so we had no compunction about choosing our own new route. If none came we might reasonably hope to make Cape Seddon safely.

It was a desperate trail that sledged its arduous way toward Cape Seddon. Our dogs were so weak they could hardly draw the empty sledges. The going was heavy. Cape Seddon seemed to retreat instead of coming to meet us. No relief sledges came. The forenoon went, and afternoon was already well spent when we heard a shout behind us, and we saw a new sledge rapidly overtaking us. It was Ootah's, sent out with two others to help us get back. It was laden with meat, which Ootah distributed as soon as he caught up with us.

We made tea, boiled some meat for ourselves, and fed our dogs. From despair we passed to exultant delight; the danger and hardship were over, for that time at least.

While we ate, two other sledges caught up with us. From Ootah and his companions we learned that Rasmussen had but that day reached Cape Seddon, for he and his Eskimo had gone far out of their course before realizing that they were lost. Though they had headed at once toward the cape, they had been long getting into the settlement there.

We reached Tooktooliksuah, the Eskimo village on

Cape Seddon, at midnight. Some of the sledges did not get in for several hours later. Many of the dogs were so far gone that they died. Of one team of eight five died, and from other teams several of the dogs were lost.

Instead of crossing Melville Bay in two or three days, as Rasmussen had expected, we had been en route ten days, ten days of bitter cold, grueling hard going for men and dogs, and constantly increasing fear that the trip might end disastrously. We had come to realize how efficient a barrier Melville Bay had been for centuries to intercourse between the Smith Sound Eskimo and those of Danish Greenland.

We rested at Tooktooliksuah for two days before starting on our way. Though the Eskimo here were not abundantly supplied with meat they had sufficient for us and our dogs, and for supplies to take with us when we left. While in camp in the village I suffered an attack of nose-bleed, due to frosted lining of the nasal passages, that Doctor Hunt found it difficult to check; when finally he got my nose plugged tight enough to stop the bleeding, I had lost nearly a six-pound pemmican-canful of blood, and was weak as a sick cat. In all my Arctic experience I had not been in so disabled a condition—weak from loss of blood, both feet frozen and sore, both wrists frozen, and both heel-cords chafed deep. I was but a worn, broken specimen of Arctic explorer.

A few days later we had reached Tasiusak, the northernmost Danish station; and a week after we left Cape Seddon we were in Upernavik, the capital of the colony, where we found civilization strongly intrenched in the homes of Governor Vinterberg, Pastor Rossen, and Doctor Bryder.

By all of them we were made welcome in the most cordial and hospitable way. They were exceedingly kind and courteous, and showed us every possible consideration as long as we were their guests. The memories of Upernavik and the good people there are among the pleasantest of the four years of the expedition.

A SUMMER IN A DANISH GREENLAND TRADING-POST

When Doctor Hunt and I reached South Upernavik, a little Danish trading outpost along the west coast of Greenland in latitude 72° 20′ N., we were confronted by open water that prevented our continuing, at the time, our way further south, to a port where we might meet the first Danish steamer. For over a month we were forced to stay at the home of the factor waiting for colder weather and new ice. Such unfavorable conditions as those of January and February of 1917 had not been known in midwinter for years—temperature at freezing, rain and fog every few days, warm foehn winds, and open water far into the fjords; the Eskimo could kill little game, and because their reserves were very small, they were soon on the verge of starvation.

When finally cold weather came again and new ice formed on the fjords, the dogs in South Upernavik and the neighboring village, Proven, were in such wretched condition that it was next to impossible to obtain enough to take us on our farther way. Doctor Hunt and I agreed that for both of us to attempt to go might so retard our travel that neither would succeed. In such an eventuality, the messages we carried to America,

stating the conditions in which the Crocker Land Expedition found itself in the far North, and asking for continued efforts for relief, might not be delivered until too late. Hence we decided that, to insure with as much certainty as possible their prompt carriage to America, Doctor Hunt should obtain the best dogs and equipment available and go southward, while I stayed at South Upernavik to await relief after the ice went out and a ship could come to the station.

February 16th Doctor Hunt left me, on his attempt to get to Holsteinsborg, where he might catch the *Hans Egede*, the regular mail- and passenger-steamer plying between Greenland and Denmark during the open season. Because of thin ice, he was forced to go by an entirely new route, directly back over the mountains. The story of his successful journey south is an epic, a record of success over incredible difficulties, and dauntless perseverance in the face of almost insurmountable obstacles.

My courage sank lower than it had been before in the Northland when he bade me good-by and sledged away. After he left me I was quite alone, with no certainty that my enforced stay in Greenland might not be prolonged several years; no certainty that I might not be dependent upon foreign hospitality, free and friendly though it be, for an indefinite time. I longed to be home again on native shores, to see my friends again.

For a long time I watched him, until at last his sledges turned out of sight around a little point across the fjord. Then I turned back to the little sod-walled trading-station with a heart heavy despite the kind and reassuring words of the factor, to begin a five months' wait for a means of getting home.

Hans Kintrup-Jensen, the factor at the station, who had urged upon me the advisability of staying with him until summer, and who had assured me that I was not only welcome to make his home my own, but that my staying with him could relieve the monotony of his days, at once set about making me forget that I was left behind, and planned all sorts of diversions by which the months were to pass like days.

He was a Danish cooper who had come to Greenland twenty-three years before in the employ of the Royal Danish Trading Company, which holds a monopoly of all Greenland trade, and regulates, in large measure, the affairs of the colony. He had married an Eskimo woman, who died several years ago and who left him with six children—three girls and three boys. Though his salary has never been more than six hundred dollars, he has sent two children to Denmark for their education, and made a home for the other four, even after the death of their mother.

He is a genial, exuberantly care-free fellow, upon whom the responsibilities of his position sit lightly. Like most Danes, he is fond of ale, coffee, and tobacco, and keeps a goodly supply of all three; his fare, though simple, is abundant, and well cooked by his Eskimo servants. He is generous and hospitable to a fault. He rules the little village as despotically as a czar and dispenses the stores of his station as profitably as he can. Whenever the mood seizes him he gives a dance, to which favored Eskimos are invited and at which he himself cuts a prominent figure. He complains continually of his hard work, but, except for a month or so in summer when he must work at his blubber-barrels, his duties as factor require but a few hours of each day.

He made my stay at his home exceedingly pleasant and agreeable, sharing his home with me as if I were a member of his family.

His house is a little three-room cottage, snug and comfortable, but poorly ventilated. While I stayed with him I slept in my sleeping-bag in his workshop, where I could get all the fresh air I wanted. The cottage is banked up with turf on all sides, so that the fierce Arctic winds cannot get at it.

He keeps a retinue of six servants—three men to hunt for him and look after his dogs, and three women to cook for him, brew his ale, care for his clothes and children, and look after the house.

To cook and brew satisfactorily for him is no light task, and I often marveled at the patience and tact that Pauletta, his little, rotund, moon-faced Eskimo cook, displayed in the management of her master and his household. From early morning until late at night she was busy as could be. We had three regular meals a day, besides luncheons innumerable. The luncheons were almost invariably ale, black coffee, and raisin cake, all good. Pauletta kept the coffee-pot boiling all day long; three times a week, at least, sometimes oftener, she baked rye bread and raisin cake; every two weeks she brewed ale; besides, she cooked all the meals and supervised all the activities of the household. She was really highly efficient, and when the master of the house took her to task for some minor neglect of her duty I could not help feeling sorry for her.

Her little kitchen was always crowded. The children and many servants were ever in her way. Whenever the hunters brought in seal, the animals were thawed out and skinned, drawn and quartered, in the

kitchen. Her two assistants were usually not of much help, often a direct hindrance. Few cooks have to work under such difficulties, yet Pauletta was always willing, always cheerful, always ready to help some one else at his task in addition to her own.

The children are well-behaved. Three were home during my stay at the house. One, the eldest of the three, is a pretty girl, fifteen years of age, but wild and frivolous as an Eskimo, little help in the house. Leo, a spoiled lad of eight or nine, rules the household, even his father, when he chooses. His thin lips, tight closed, show how cruel and stern he may become in time. Esther, the baby of the family, is a typical little golden-haired, blue-eyed Danish lass as pretty as a picture and as girlish as if she had not a trace of Eskimo blood in her. In all her ways and in her temperament and character she is Dane rather than Eskimo.

During the five months of my stay there I was not once reminded by word or deed that I was almost a self-imposed guest or that my stay there made serious inroads upon the meager supply of Danish provisions, such as butter, sugar, and canned goods, in the larder. No matter how trying the day, how gloomy the prospect, the entire household were kind to me and thoughtful of my comfort.

I obtained a team of eight dogs and bought a sledge from my host. With this equipment I was able to sledge about the colony whenever conditions permitted.

After I had begun sledging I was about home but little. Most of the time I was out seal-hunting. As soon as the season opened I set a line of eight seal-nets, which I had to visit every other day, and two shark-lines that I had to attend carefully. I caught almost

twoscore seals and half a hundred sharks during the season.

This catching seals in nets is not practised by the Eskimos of the Smith Sound tribe, but in Danish Greenland the Eskimos use the method assiduously throughout the length of the coast every fall and spring. It is practicable only when, at least for part of the day, not enough light passes through the ice to permit the seals seeing the nets hanging downward into the water.

The nets are about fifteen feet long and eight feet wide, with a six-inch mesh. They are made of strong twine. They are suspended underneath the ice, across some lead which the seals follow to and fro to find openings to come up to the surface to breathe. The Eskimos dig holes in the ice, through which they hang the nets at right angles to the lead. To dig these holes and to keep them open requires considerable time and work. Even the most active and industrious of the Eskimos finds it hard to care properly for more than sixteen nets.

In the most favorable season an Eskimo often finds half a dozen, or even more, seals in his net each day, and then he lives well indeed, for he uses the meat for food and exchanges the skin and blubber with the trader for sugar, coffee, oatmeal, rye flour, tobacco, cloth, ammunition, or some of the other commodities he can obtain. Often, however, unfavorable ice conditions prevail and the catch of seals is small, occasioning poverty, malnutrition, and even starvation. When, as sometimes happens, the ice goes out, carrying all the nets with it, the loss is so heavy that the Eskimos incur debts to the station to such an extent that they require years to discharge them.

The shark fishery is an unusual industry and, to a stranger in the country, most interesting. The shark caught is the sluggish sleeper-shark, of which the liver yields a fine oil much used in illumination. On favorable banks along the entire coast of Greenland the industry is well established, and thousands of pounds of shark-liver oil are obtained annually. The fishery begins in April and continues until the ice goes out; even afterward large numbers may be caught from a boat.

The sharks are caught on large hooks suspended through the ice on lines of strong wrapping-twine long enough to reach almost to the bottom. The line seems ridiculously light to catch these animals, some of which measure fifteen or twenty feet in length and weigh over a thousand pounds. The sharks are so sluggish, however, that they offer no resistance whatever to being hauled up and pulled out on the ice. To prevent the sharks biting the line through and escaping, the hook is attached by a swivel directly to a thin iron bar, and this bar to a light chain about ten feet long. The twine is double for about fifty feet of its lower end, so that it will not so easily chafe in two against submerged rocks or ledges.

The hook is baited with seal entrails, seal heads, or codfish. The shark, though sluggish, is voracious, and gulps down the whole bait, hook, and often part of the bar. Not uncommonly it happens that when a small shark has been caught on the hook, a larger one comes along and swallows the smaller already impaled. When the sharks are cut up to take out the liver, all kinds of things are found in their stomachs—pieces of seal, of walrus, strange fish, and even parts of human beings.

At South Upernavik the shark fishery is not very

profitable, for the sharks are few and small; but at Proven, the neighboring village to the north, hundreds, even thousands, are caught each year. Generally the liver is the only part used. In times of stress, however, the meat is dried for dog food. As dog food, shark meat is not very desirable, for, unless it be very carefully dried, the dogs become intoxicated after eating it, and for several hours are too drunk to pull a sledge.

In addition to hunting seals and catching sharks, I went caribou-hunting with Herr Neilsen, the factor at Proven; twice went to Upernavik to pay my respects to Governor Vinterberg and to visit him and his family and the rest of the Danes there; and whenever I could I went for long drives along the coast. Because the snowfall was unusually heavy I could do no scientific work in my own fields. At the end of May the snow was still nearly ten feet deep in places, and over five feet deep on the level. When I left South Upernavik in mid-July, great drifts and fields of snow lay scattered about the mountains still.

I learned to like the Eskimos of the little village very much. Their lot is a hard one, yet they are ever cheerful, ever happy, and nearly always hopeful. Consumption is rampant among them, and I think that over half the deaths are from this dread disease. The Danish doctors are doing their utmost to combat the plague, but with little success, for the conditions and habits of living are conducive in the extreme to the continuance and spread of the disease. The little sod-walled houses, overcrowded, ill-ventilated, usually lighted with only one tiny window, are almost ideal culture-ground for the germ of the disease. Nothing is more pathetic than to see the little diseased children, some

with pulmonary tuberculosis, some with tuberculosis of the bones, nearly all with some form or another, few of them with hope of ever becoming strong, well-developed men and women.

The summer was half gone when the ice began to go out. Every day we watched for the ship, but it was not until mid-July that Inspector Lindow of Godhavn, the chief magistrate of northern Greenland, picked me up when he made the rounds of his inspectorate in his motor-boat; and after taking me on a visit to Upernavik, Proven, and Nuksuah, carried me to Godhavn, where I stayed with Manager Porsild, director of the Danish Arctic Station. For a month I reveled in the treasuries of Herr Porsild's splendid library and well-equipped laboratory, and of the interesting flora of the hot springs area near the village. As everywhere else along the coast, I found at Godhavn the exquisite courtesy and generous hospitality that characterize the Danes throughout Greenland. In mid-August I bade good-by to the kind people of the little village and steamed away. With the arrival of Captain Bartlett in the *Neptune* my stay in the Northland was ended.

APPENDIX IV

THE VISIT TO THE METEORITE

W. ELMER EKBLAW

Arctic midnight was only a week or ten days past when Mac told me one evening to make ready to go to examine Rasmussen's meteorite on the shores of Melville Bay, some two hundred miles from Etah. The order came as a surprise to me, for, though I had wished to see the "ironstone" ever since I had first heard of it from the Eskimos, I had felt that perhaps the preparations for our impending dash for Crocker Land would preclude the possibility of using time and dogs for any subordinate purpose. Hence, I was much pleased that I might go, for, after having seen the great meteorites in the American Museum of Natural History in New York, the great rusty blocks of iron brought home by Peary, I was curious to examine others "on their native heath."

The Rasmussen meteorite had long been sought by the Eskimos, who knew by tradition that it lay somewhere on Ironside Mountain; the exact locality had been forgotten since the time its metal had ceased to be one of their sources of iron for knife-blades, before the white man came with a more abundant and more convenient

supply. They had been incited to more vigorous search by the promise of a liberal reward to the finder by Knud Rasmussen, the Danish explorer, who maintains a trading-station at North Star Bay.

Under the incentive of this promised reward, Koodlooktoo, one of Peary's boys, had found the great ingot.

Our party heard of the discovery of the meteorite almost as soon as our first visitors came to Borup Lodge, our headquarters; and not long after, Koodlooktoo came himself to tell us more of it. He said that he had found it the preceding summer; while out sealing in his kayak he had landed at the foot of the mountain to hunt *hares*, and afterward had gone to the top to look for the meteorite, with unexpected success. He had almost fallen over the stone.

Koodlooktoo expected to return about the 1st of January to his home on Cape Melville, not far from the meteorite, and, since New-Year's day was not far off, Mac told me to begin at once getting my clothing and equipment ready to accompany him when he left. Because I had been out on two short expeditions across Smith Sound early in December, my traveling equipment was almost complete and I had learned, in a measure, what to take with me and what to leave behind.

When the time came to start, Jot, our cook, thinking that I should need a good square meal to sustain me through the first march, scrambled a big panful of eight eider's eggs which I ate in addition to my regular breakfast. Our party set out soon after, but a heavy wind off the land at Cape Alexander drove us back, and we waited until the next day.

Again Jot cooked a big panful of eggs for me, again we set out, and again the wind drove us back; three

times we repeated this, until, the fourth morning, Jot declared that he had cooked me scrambled eggs long enough, and if I came back again I should have to start without them the next time. He averred that our stock of eggs was not inexhaustible, and, besides, if I ate a few more eggs I should be so heavy that the dogs could not pull my sledge. I could risk no such eventuality, and on the fourth morning I got off without having to turn back.

We sledged over the Cape Alexander glacier to Nerky, where we stopped to sleep. Our march had seemed very short to me, for we had been a merry company; our dogs were fresh and strong, the going was good, and the experience novel, to me at least. Though not even a flush of light appeared on the southern horizon at noonday, the starlight reflected from the frost-flowers on the new-frozen ice gave us light enough to travel by. While crossing Smith Sound I had already ridden over thin, rubbery ice that bent under the sledges, so I was not alarmed when, south of Cape Alexander, we traversed several miles over ice so springy that it sank beneath the weight of the foot.

At Nerky we were warmly welcomed by the whole population of perhaps thirty people. I elected to stay in Inighito's big igloo, for Mac, who had been in the village before, had told me that Tookey, Inighito's wife, kept it spik-and-span clean.

And so I found it; as a matter of fact, many igloos are very clean; to quote Knud Rasmussen, "dirt and cleanliness are only relative, anyway." Of course, there are slovens among the Eskimo women as well as among those of other peoples, but as a rule the people are cleanly, when one considers that water is difficult

to obtain and soap and cloth are almost entirely wanting. A dirty igloo is about as dirty as anything can be.

After a good night's sleep in Tookey's igloo—by the way, an igloo is always spoken of as belonging to the wife, who is supposed to govern within its walls—I set out again. At my earnest solicitation, Oobloyah, one of Peary's most efficient men in previous expeditions, chose to accompany me to the meteorite. He had a big strong team of dogs that could easily take me there and back. We followed the inside route into Inglefield Gulf to the mouth of Olrik's Bay, where we crossed over the glacier to the head of Granville Bay, instead of going out beyond Cape Parry. In one march we sledged from Olrik's Bay, over the ice-cap, down Granville Bay, and up Wolstenholme Sound, to the Danish trading-station at North Star Bay, a distance of about eighty miles, in a little over twenty-two hours. I think I had never in my life been so hungry as I was when I got into North Star Bay, though later experiences brought me a great deal nearer starvation.

When we reached the Eskimo igloos, Koodlooktoo told me, in perfectly good English, that Rasmussen had just got in from Upernavik, and since he would probably leave again that day I ought to go down to call upon him at once. Almost too tired, sleepy, and hungry to care, I waited until I had had my tea and walrus meat before going across the cape to Rasmussen's house. Time doesn't count for much in Eskimo-land, especially in winter, when it is night all the day long, anyway, so, though it was ten o'clock in the morning, no one was awake when I got to the station.

I entered the vestibule and knocked at the door to the room which the Eskimos told me was Rasmussen's.

A sleepy "Kanno" answered my knock, and when, in response, I threw open the door and greeted him in perfectly good Swedish, Rasmussen could hardly believe his ears; his eyes were too full of sleep to detect any one but a rather large-sized Eskimo dressed in regular Eskimo costume. When finally he comprehended that his visitor was a white man he jumped out of bed, grasped my hand with his firm, cordial clasp, and made me welcome in the most approved Scandinavian fashion. In a moment he had given orders to have coffee made; in another moment or two it was done, and while we sipped the hot, strong, black coffee such as a Scandinavian loves, our tongues wagged so fast that the Eskimos later said they had never heard the like.

Both of us were pleased to meet each other, both of us were excited, and both of us had a thousand eager questions to ask. When I told him the object of my journey he at once suggested that I stay with him two or three days, that his dogs might rest a little from their long trip up from Danish Greenland, and he would accompany me when I set out again. Nothing loath to accept such boon companionship, I promptly decided to fall in with his suggestion, all the more willingly since my own Eskimos seemed reluctant to proceed at once.

The days at the station passed pleasantly and all too quickly. We ate and talked, and talked and ate, and then repeated. I never drank such good coffee or ate such fine bear steak as I got there every few hours. Hendrik Olsen, Rasmussen's all-round handy man, was an expert at making coffee, and proud and pleased at my telling him so, he kept the coffee-pot going most of the time. In the few hours when I was not talking or eating or sleeping I browsed over Rasmussen's well-

stocked library. I found time to reread most of Byron's "Don Juan" and Kipling's *Jungle Tales.* Rasmussen is an omnivorous reader, his favorite sledge-companion being Xenophon's *Anabasis,* in the original Greek. When we set out together for the meteorite, he put this volume in his sledge-bag, while I carried with me a copy of Tegner's *Fridtjof's Saga.*

We left North Star Bay with a dash. Rasmussen, with some Eskimo blood in his veins, and reared to adolescence in Danish Greenland, is a born dog-driver, and with his eight big husky dogs he led the way. We sped along rapidly over the firm, smooth ice, and in the course of about eight hours reached the bear-cave near Petowik glacier, where we stopped for rest and coffee. The bear-cave is a historical place among the Eskimos, a kind of half-way station between Ak-pat and Umenak —that is, between Conical Rock and North Star Bay. All kinds of adventures are related as having happened there in days gone by, and when I entered in through the low, dark passage I did not wonder that the Eskimos regarded the cave with considerable superstition, that it occupied a prominent place in their legends and traditions. They keep a stone lamp, moss for wick, blubber for oil, and other conveniences for those who stop there when traveling.

From the bear-cave to Ak-pat, where we stopped at Koolootingwa's igloo, seemed a short ride indeed. Because Koolootingwa and his family lived alone here, his one igloo furnished shelter for his household, our party of half a dozen, and another party who had come in from the east, a total of nineteen people. When the time came to sleep we packed together like a big litter of kittens. Koolootingwa maintained his reputation as

one of the most successful hunters of the tribe, for he brought forth a large supply of bear meat, walrus, seal, birds, narwhal blubber, and all the other delicacies of the Eskimo larder, on which we gorged ourselves to maintain our reputations as successful eaters. I made rapid progress in adapting myself to the food of the land, for the morning of our departure I managed to make away with a piece of blubber at least five pounds in weight; by so doing I won the approbation of all present, including Rasmussen.

Another long march from Ak-pat to Savikseevik, with a brief visit at the settlement on Cape York, brought us to the village nearest the meteorite. Savikseevik is a village of three igloos, not far from the place where Peary obtained the largest of his meteorites; the name means in Eskimo "the place where the ironstone is missing." We rested from the afternoon of one day until the forenoon of the next before going to the Rasmussen meteorite.

The drivers of Savikseevik took us to Ironstone Mountain. The way thither led over snow-drifted, hummocky, old ice that had lain in the bay for a number of years; bear tracks, old and fresh, formed a veritable network over the whole expanse, but we saw none of the monarchs of the ice-fields. We reached the foot of the mountain just at noonday. We tied our dogs securely to the ice-foot and started up the steep slope.

We tramped about a mile and a half or two miles before we came to the mountain-top upon which the meteorite lay. The Eskimos soon found the pillar-like boulder of white gneiss that Koodlooktoo had set up to mark the meteorite; the meteorite itself, a large rusty block of nickel-iron alloy, was buried deep under the

snow. We had carried with us a shovel to clear away the snow, a lantern to light us at our work, a Primus stove and kerosene with which to make coffee, and tools to cut off a sample of the iron. While the Eskimos built a little shelter of snow blocks to protect us from the piercing wind and made a pot of hot coffee, Rasmussen and I uncovered the meteorite and measured it. When we tried to get some samples of the meteorite we found our efforts almost futile, for in the intense cold—the thermometer registered 52° F. below zero—our chisels and hacksaws and hammers all broke against the chill iron, which, though soft, was tough. Only by using the heavy sledge-hammer could we finally obtain even a small sample. We collected, also, a number of sharp-edged slabs of basalt that the Eskimos had used in former generations to cut off the little flakes of iron that they made into their little serrated knife-blades.

I shall not soon forget the scene of our labors that day. The sky was clear as only far Arctic skies can be, thick-set with the thousands of brilliant stars. In the north a full moon shone over the lonely far-reaching Greenland ice-cap, and Saturn, in alignment with the heavenly twins, Castor and Pollux, raced toward the fair realms of the wonderful Hyades.

To the south lay the iceberg-studded fields of Melville Bay, gleaming white in the bright moonlight. The black cliffs of Cape Melville loomed dark on the far eastern horizon, and to the west the forbidding walls of Bushnan Island rose stern and grim.

It was a passing unusual scene, unique in the annals of the North, an adventure worthy of a saga, this our visit to the mighty, lost hammer of old discarded Thor. Scandinavians both, though one came from the Old

World and one from the New, we felt a like interest in this massive ingot forged in interstellar space, which we fancied had perhaps been flung from Valhalla before the days of iconoclastic science. As we were deeply engaged in our discussion on the possible origin of this vagrant planetesimal the coffee-pot boiled over; with little regret our thoughts swung back from the realms of celestial speculation where they had been wandering, to mundane reality.

We had visited the meteorite.

APPENDIX V

THE VEGETATION ABOUT BORUP LODGE

W. ELMER EKBLAW

That such a relatively luxuriant vegetation as that which is found about our headquarters in Northwest Greenland can grow so near the Pole surprises and interests most people who learn of the green patches of dandelion, the smiling fields of golden poppies, and the verdant slopes of lush blue-grass, flourishing almost a thousand miles within the Arctic circle. That mushrooms as wide as dinner-plates and as delicious as our meadow mushrooms; that ferns as dainty and as beautiful as those of our mountain woods; that buttercups as bright and glistening as those of our prairie stream-banks; that bluebells and rhododendron and heather and many others—all find in the continuous sunshine of the Arctic summer sufficient heat and light not only to grow, but to thrive, and to reproduce themselves, amazes almost every one but the professional botanist.

True, it is only in favorable spots that all these plants grow, but, even so, there are few areas so rocky, or so cold, or so wind-swept, that not any plants can find a place for themselves. If nothing else grows, the lichens, at least, are sure to cover the rocks. But almost

everywhere some of the hardier flowers or grasses appear, sometimes dwarfed, it is true, but vigorous, for all that.

Within the limits of Northwest Greenland—that is, between the great glaciers of Melville Bay on the south and the Humboldt Glacier on the north—I collected over one hundred and twenty-five species of vascular plants. A number of these had before been recorded from this area, and one had not before been found in Greenland. This last, *Androsace septentrionalis*, a delicate, inconspicuous little flower, I found growing on a gravel slope within a hundred yards of Borup Lodge. The mushrooms are not numerous, but the lichens are legion.

The forests of that far Northland do not appreciably obstruct the view, nor does the shrubbery afford much cover. The biggest trees do not rise more than three inches above the rocks on which they grow, even though their branches may spread over a square yard of surface, and the biggest shrub grows hardly so large as a croquet ball. The commoner trees are the Arctic willow (*Salix arctica*), the little two- or three-leaved willow (*Salix herbacea*), and the tiny dwarf birch (*Betula nana*). In fact, there are no others. Some of the Arctic willow, though over fifty years old, have a stem no thicker than my little finger. *Salix herbacea* is tiny indeed, rarely more than a half-inch high.

Of shrubs the most interesting is the Lapland rhododendron (*Rhododendron lapponicun*). On a few sheltered slopes, where the sun shines warm and the snow does not lie too long, this little bush blooms profusely, its tiny twigs set with numerous little rose-purple blossoms scarcely a quarter of an inch wide. Two species

of cranberry (*Myrtillus uliginosa* and *Vaccinium vitisidæa*) neither fruiting except in unusually favorable seasons, grow in the area, though the latter is rare. The curlew-berry (*Empetrum nigrum*) blooms on sunny heaths in some deep fjords, but rarely sets fruit.

The trees and shrubs, if they may be called such, are generally found on the Arctic heaths, where they associate with other plants partial to warm, sunny slopes. The golden northern arnica (*Arnica alpina*), so like a diminutive sunflower in its habits and appearance; the woolly catspaw (*Antennaria alpina*), for all the world resembling its cousins of the Southland; the tiny Arctic bluebell (*Campanula uniflora*), dainty and gentian blue; the delicate pink-and-white shinleaf (*Pyrola rotundifolia*); and the pretty dark-purple grass (*Trisetum spicatum*), are conspicuous members of this heath-forming group, of which the creamy white bell-flowered andromeda (*Cassiope tetragona*) is the characteristic flower.

The cress family is represented by sixteen species, of which the most are white-flowered: one of the exceptions is the purple rocket (*Hesperis pallasii*) fragrant with the odor of wild plum blossoms, the only really fragrant flower about Etah. The rose family is represented by six or seven species; one of them, *Dryas integrifolia*, is perhaps the commonest flower in all the North, because its starry white blossom is found nearly everywhere and during the whole summer season. The rest of the rose family are the cinquefoils (*Potentillæ*), of which Vahl's (*Potentilla vahliana*) forms golden carpets on some of the sunnier, drier, morainal slopes. Ten saxifrages find a home in the environs of Etah, and of these the purple saxifrage (*Saxifrage oppositifolia*) is generally the earliest of all the Arctic flowers to open into blossom. As

soon as the snow melts to leave a spot of rock or soil exposed, the purple saxifrage bursts into bloom. It is no uncommon sight to see a pennant of its pure purple flashing between great drifts of snow.

The dandelions about our lodge at Etah are noteworthy. In addition to several species of the yellow, a delicate form (*Taraxacum arctogenum*), white with pink border, known from no other place in the world, grows luxuriant. Other compositæ that are not uncommon were *Erigeron uniflouns* and *E. compositus*, two very pretty plants especially fond of warm gravelly slopes.

The brightest, bravest flower of all the Northland is the cheery Arctic poppy (*Papaver radicatum*). Up to the farthest north point of land yet attained, this sturdy flower maintains itself against the snow and ice; no coast is too desolate, no mountain too bleak, to sustain it; the coldest winds, the fiercest snows, do not daunt it. It grows in profusion on the delta about our lodge, and on the stream-side meadows back in the mountains whole fields blaze throughout the summer. The poppy should be the national flower of Eskimo-land, the land of Ultima Thule!

Grasses grow in abundance. The characteristic grass of the slopes where the dovekie nests, and of other fertile places, is the so-called Arctic timothy (*Alopecurus alpinus*) that plays so important a part in the domestic economy of the Eskimo—as padding between stocking and boot, as mattress under the skins on the bed platform, and as dish-cloth and towel in lieu of anything else to use for the purpose. Numerous blue-grasses grow in Greenland, but about Etah one of the commonest forms is the plain, ordinary, garden variety of Kentucky

ARCTIC POPPY (PAPAVER RADICATUM) AND ARNICA (ARNICA ALPINA)

blue grass (*Poapratensis*), as lush as in the pasture about Lexington. The grasses cannot be left without mention of the beautiful little monotypic genus *Pleuropogon sabinei*, growing in shallow pools among the rocks, its tiny heads flung out like little rosy flags.

And besides these there are downy, white, cotton-grass (*Eriophorum polystachium* and *E. scheuchzeri*) and reeds (*Juncus* and *Luzula*) about every pool and along every swale; sedges (*Carex*), at least twelve species, some on dry hills, some along the salt seashore, some in wet pools—everywhere, in fact; club-moss (*Lycopodium selago*), not common, but widely scattered; and scouring-rush (*Equisetum arvense* and *E. variegatum*), not so large as of our land, but still typical of the genus.

Four ferns grow on the rock ledges. *Aspidium fragrans*, a sweet-smelling fern of drier ledges, is common on the sunny terraces just above Borup Lodge. *Cystopteris fragilis* is the commonest fern throughout Northwest Greenland. It grows most abundant and luxuriant in moist crevices on steep cliffs. *Woodsia glabella* is a Lilliputian fern, not an inch high, and *Woodsia ilvensis* is not much larger.

As soon as the snow begins to melt, the plants begin to blossom. The first flowers at Etah usually open a few days before the 1st of June, a month and a half after the midnight sun has begun. Some species are often retarded by the heavy summer snows, so that they hardly have time to blossom at all, for the killing frosts begin to come about two weeks before the last midnight sun. Even before the 1st of August the autumnal yellows and tans and browns come, and growth is at an end. The season of life is brief, indeed, but under the daily bright

twenty-four-hour sun the Arctic plants, nearly all like those of our early spring, come to rapid maturity.

Though all these plants grow rather luxuriantly about our lodge, they scarcely begin to hide the nakedness of the rugged slopes and rocky cliffs and plateaus; yet to us who lived among them for four years they are as beautiful and dear as our trees and shrubs and grasses and flowers of the Southland. They grow bravely in the face of almost impossible conditions, courageous guardians of life in the cold, killing North.

APPENDIX VI

ORNITHOLOGY

D. B. MACMILLAN

1. *Gavia immer.* Loon. Great Northern Diver. Rarely seen in vicinity of Etah. Recognized by three members of the expedition on July 7, 1914. No specimens or eggs secured.
2. *Gavia stellata.* Red-throated loon. Wabby. Cobble. Eskimo name, Kak-sau. Common. Found breeding in lakes on northern shores of Grant Land at 82° 30′ N.
3. *Fratercula arctica naumanni.* Large-billed puffin. I have never seen this bird north of Cape Hatherton, 78° 30′. Breeds upon Hakluyt Island, 77° 30′.
4. *Cepphus mandti.* Mandt's guillemot. Sea-pigeon. Eskimo name, Silgh-wha. Very common. Breeds from Cape York, 76° N., to Cape Union, 82° 18′ N. Nests in cracks of cliffs from water edge to height of 800 feet. Eggs, 1–2. June 10th. Etah. Young in water August 10th. Seen every month in the year in open water between 76° and 78° 45′ N. Ten were seen by my party when crossing Smith Sound on February 14, 1914, when the temperature was —54° F.
5. *Uria lomvia lomvia.* Brunnich's murre. Eskimo name, Ark-pa. Large numbers off Etah June, July, and August. I do not know of this bird breeding north of Hakluyt Island, 77° 30′. Reported by Bessels north of 81° as "quite abundant and nesting."

6. *Alle alle.* Dovekie. Sea-dove. Little auk. Bull-bird. Ice-bird. Rotge. Rotchie. Rotch. Sea King. Eskimo name, Arq-pud-e-arq. Breeds from 68° N. to Anoritok, 78° 40′ N. Arrives Etah May 15th. Nests in crevices of sea cliffs in company with guillemots, in the rock debris at base of a cliff, or on slope bordering the sea, bay, lake, or river-bed; even found inland at distance of a mile and at height of 1,000 feet. Eggs, 1, weight one ounce. Date, June 18th. Two eggs occasionally found in nest. That these are not the eggs of two birds is shown by the fact that two well-developed eggs are often found in the body of a bird. Young obtained from nest July 21st. Seen swimming August 14th. Average weight, 5.2 oz. Nests among rocks of talus consisting of pebbles and few bits of dried grass.

7. *Stercorarius parasiticus.* Parasitic jaeger. Bosun-bird. Teaser. Jiddy hawk. Skua gull. Eskimo name, E-shing-wa. I saw this species when sledging along eastern shore of Grant Land in latitude 82° N. The swift and very bold attack led to the discovery of one nest containing two eggs, distant some twenty yards from the ice-foot. The nest was simply a slight depression in a dark-reddish gravelly soil.

8. *Stercorarius longicaudus.* Long-tailed jaeger. Buffon's skua. Very common at Etah and as far north as 83°.

9. *Pagophila alba.* Ivory gull. Ice-partridge. Eskimo name, Now-ya-wah-o. Very common in Smith Sound and as far north as 82° 30′. Fully formed egg obtained from body of bird June 30, 1914. Breeds on cliffs on eastern side of Kennedy Channel from 79° to 80° N. Feeds largely upon the excrement of seals and walrus. I have never seen this bird in the water. Whenever we cut up walrus upon the drift ice of Smith Sound the ivory gull appeared, and, alighting within a few yards, awaited patiently for its share of the meat. The young were seen

in September with dark markings on breast and upon tail feathers.

10. *Rissa tridactyla tridactyla.* Kittiwake. Eskimo name, Tah-tah-ra. Common as far north as 82° 30′. Breeds at numerous localities in Smith Sound, but not north of Etah, 78° 20′. Associated with the kittiwake, there is a peculiar custom among the Smith Sound Eskimos. In former years the head of this bird was sewn into the clothes of a female child. Worn as an amulet, it would insure giving birth to small children, as the egg of the bird is small in proportion to its size.

11. *Larus hyperboreus.* Glaucous gull. Burgomaster. Eskimo name, Now-ya. Most common gull in Smith Sound. Breeds on cliffs throughout whole extent of coast-line from Cape York, 76° N., to 82° 30′ N. Arrived at Etah May 10th, 1914; May 7, 1915; May 13, 1916; May 15, 1917. Upon ledges and islands, where in general there is need of no protection from foxes, nests are placed among those of eider ducks and easily accessible. Upon the mainland we find them upon cliffs, often inaccessible, to the height of 1,000 feet. The tops of isolated or outstanding pillars, sometimes called "chimney rocks," are always preferred to narrow ledges. In nests are sometimes found one brant or one eider duck's egg. Old nests are remade by being pulled apart and new material added, such as grass and moss. Time of laying depends much upon snowfall and dry condition of nest. I found eggs hatching on July 1st at Etah. Ten feet away there was a nest containing eggs perfectly fresh. Eggs, 2–3. June 8, 1917.

Young leave nest August 18th–31st. Old birds leave Etah and vicinity about September 1st. Young congregate and remain feeding at mouth of streams until October 31st. The glaucous gulls feed upon dovekies, eider eggs, young eiders, lemming, sculpin, and trout. Dovekies, or little auks, are often seized in mid-air and swallowed whole

into the lower throat. Here the bird remains until the flesh is digested. The pellet, consisting of head, feet, wings, and skin entire, is disgorged.

Weight of glaucous gull, 4 lbs. Stretch of wings, 5 ft. 3 in. Weight of egg, 4 oz.

12. *Larus argentatus.* Herring gull. Not seen north of Etah. Most northern breeding-place, Ittibloo, in Whale Sound, 77° 25′ N.

13. *Xema sabini.* Sabine's gull. I saw and shot this bird on the northern shore of Grant Land on July 8, 1909. Lat. 82° 30′ N. Fairly common at Etah. No nests or eggs discovered. Found nesting in Northeast Greenland by *Danmark* Expedition. Eggs, 2.

14. *Sterna paradisæa.* Arctic tern. Sea-swallow. Eskimo name, E-muck-ko-tail-ya.

I found this species nesting on the northern shore of Grant Land on July 7, 1909. Lat. 82° 33′ N. Nest contained one egg. Very common in vicinity of Etah; flocks continually passing north and south. Breeds extensively at head of Inglefield Gulf and at North Star Bay.

15. *Fulmarus glacialis glacialis.* Fulmar. Molly. Mollimoke. Mallemuke. Noddy. John Down. The light and dark phases of this bird are both very common at Etah, especially in September. Breeds from 69° N. to 76° 35′ N. Seen frequently at winter quarters of S.S. *Roosevelt* at 82° 30′ in July, 1909. From a rest upon the water this bird spreads its wings and dives wholly beneath the surface to grasp food.

16. *Nettion carolinense.* Green-winged teal. One pair only were seen and obtained by us during our four years. That this was an uncommon visitor was plainly evident by the exclamations of surprise of our Eskimos, most of whom had never seen the bird before.

17. *Harelda hyemalis.* Old squaw. Long-tailed duck. South southerly. Hounds. Old Injun. Eskimo name, Ugley.

Very common as far north as 82° 30′. Arrives at Etah about May 25th. Found nesting near Etah and also by me at Mushroom Point on northern shore of Grant Land on June 28, 1909. Nest contained five eggs.

18. *Somateria mollissima borealis.* Northern eider. Sea-duck. Eskimo name, Mee-tik. Very common. Arrives at Etah about May 1st. Departs November 1st. Female breeding-note, Kak-kak-kah-kah—koo-ów; male, Ah-óo—ah-óo—koo-kóo—koo-óo. Weight, 3¼ lbs. Weight of egg, 3¼ oz. Eggs, 5–9. Found as early as June 10th. Eggs often found in nest of brant and also in nest of glaucous gull. On September 6th the young were beginning to fly. Weight, 2.8 lbs. Six thousand eggs are often gathered in a few hours from one small island. Eggs vary in length from 2.75 in. to 3.25 in.; in breadth from 1.90 to 2.15. Breeds on the islands of the Greenland and Ellesmere coast as far north as 81° 40′. Seen repeatedly at Cape Sheridan, 82° 30′ N.

19. *Somateria spectabilis.* King eider. The king eider arrived at Etah with the northern eider and associated with it throughout the season. The females of these two species so resemble each other that I was never able positively to identify the nest and eggs of the king eider. It is found wherever the northern eider is found, from the southern shores of Greenland to the northern shores of Grant Land.

20. *Chen hyperboreus nivalis.* Greater snow-goose. A flock of ten arrived at Etah June 10, 1917. After circling around the fiord they flew over the hills northward. Often seen at Anoritok along shore and at lakes one mile inland. Nest not found.

21. *Branta bernicla glaucogastra.* Brant. Eskimo name, Nugluq. Arrived at Etah about June 1st. Nests on Littleton, Sutherland, and Eider Duck Islands. Eggs, 4-6. Date, June 14th–20th. Young were found hatching at

Sutherland Island on July 13, 1916. Brant were molting on this date. Nest similar in construction to that of eider duck, with the exception of the down, which is a shade lighter in color. Were seen flying along northern shores of Grant Land in June, 1909.

22. *Phalaropus fulicarius.* Red phalarope. Sea-goose. Bank-bird. Whale-bird. Common throughout the Smith Sound region. Seen as far north as 82° 30′. Found breeding at Life Boat Cove. Eggs, 3. Date, June 27, 1916.

23. *Tringa canutus.* Knot. The robin snipe. Beach robin. Gray-back. Red-breasted sandpiper. Ash-colored sandpiper. Eskimo name, Ting-may-tée-a. Very common on eastern and western shores of Smith Sound as far north as 82° 30′. Two nests containing three eggs each found by Peary Polar Expedition on July 1, 1909, at Cape Sheridan. Two nests of three and four eggs found by Crocker Land Expedition at North Star Bay in June, 1917. Nest a slight depression in soil on rolling ground about one mile from the sea.

24. *Arquatella maritima maritima.* Purple sandpiper. Rock-weed-bird. Rock snipe. Often seen in spring and fall at Etah, but apparently did not nest in vicinity. A frequent visitor at Cape Sheridan.

25. *Pisobia bairdi.* Baird's sandpiper. Found nesting at Life Boat Cove, July 1, 1916. Also at Rensselaer Harbor, June 28, 1916. Eggs, 3. Young seen around shores at Etah on September 2, 1916.

26. *Ægialitis hiaticula.* The Ringed plover. This Old-world species was very common on hills bordering the sloping shores from Life Boat Cove to Cape Hatherton. Nest, a slight depression in gravelly soil lined with small pebbles. Eggs, 3. Date, June 30, 1916.

27. *Arenaria interpres interpres.* Turnstone. Calico-back. Chicken plover. Rock-plover. Brant-bird. Checkered snipe. Red-legged plover. Very common at Etah from

June 1st to September 1st. Common at Lady Franklin Bay in August, 1901. Was interested in seeing a large flock *alight upon the water* in Kennedy Channel. Seen frequently along northern shores of Grant Land in June, 1909.

28. *Lagopus rupestris reinhardi.* Reinhardt's ptarmigan. Eskimo name, Ah-kúck-sha. Common at Etah in spring and fall migration. Not seen in July and August. Undoubtedly many remain in far North throughout the year. Seen on March 19, 1914, when we were crossing the Beitstadt Glacier of Ellesmere Land at a height of 4,700 feet with a temperature of —50° F. Also seen on March 30, 1914, in Eureka Sound at 79° 15′ N. Recorded by me at Ward Hunt Island on most northern coast of Grant Land, 83° 7′ N., on March 21, 1909. Shot at Etah on February 13, 1916, five days before the return of the sun. These birds pick through the crust of snow with their bill, then clear away loose snow with their feet, in order to uncover willow buds. The breeding-note in April resembles very much the sound of a policeman's rattle. Nesting date early in June.

29. *Falco islandus.* White gyrfalcon. Speckled partridge-hawk. Eskimo name, Ka-shé-we-a-how. Arrives at Etah about May 1st. Found nesting on vertical cliffs from a height of 30 to 1,000 feet. As far north as Cape Sheridan, 82° 30′. Nesting dates, at Force Bay, May 27, 1915; May 31, 1917; Etah, June 7, 1917. Eggs, 4. Young taken from nest at Etah on August 16, 1908, August, 1915. Young seen flying September 1, 1916. Feeds upon eider duck, Mandt's guillemot, ptarmigan, Arctic hare, and dovekies. The last are carefully picked, decapitated, wings bitten off, and body swallowed. When the meat is digested the bones are disgorged.

30. *Nyctea nyctea.* Snowy owl. Eskimo name, Ook-pik. Rarely seen at Etah. Common at Cape Sheridan on

northern shore of Grant Land during the light period. Nest found July 5th, two miles from coast on the summit of a projecting mass of rock above a river-bed, contained four young, surprisingly unequal in size, and two eggs. Remains in the far North throughout the year. Seen at Floeberg Beach by Nares Expedition on March 29, 1876. Food consists of lemming, ptarmigan, and Arctic hare. Necessarily diurnal in habits during the long light period, but more active as the sun swings low in the north. Bright sunshine affects its sight but little, if any, as shown by the fact that the Arctic owl is extremely wary and difficult to approach within gun-shot.

During the dark period its sole food must be the Arctic hare, which are very numerous in North Greenland, Ellesmere Land, and all lands west.

An extract from my field journal:

November 17, 1915.—When driving around Cape Kenrick to-night in a regular blizzard—drifting snow, heavy wind, temperature -30° F.—my dogs suddenly leaped ahead, dashed right, then left, stopped, and began to fight. To my astonishment, they were tearing a hare to pieces. As it is well known that no dog could possibly capture an Arctic hare, I was puzzled for a moment. It is the opinion of the Eskimos who were with me that an owl had captured the hare and was eating it upon the ice as we arrived. The mad dash of my dogs from place to place was in pursuit of the owl and his six to eight pound burden.

31. *Corvus corax principalis.* Northern raven. Eskimo name, Tood-a-waq. During the early spring and summer months the raven is found as far north as land extends (Lat. 83° 40′). Winter resident at Etah. Majority migrate south about September 15th. Nests about April 6th on cliffs. Nest often inaccessible. Young found in nests near Etah June 3d and June 15th; seen flying August 25th. Food during winter months consists of the excrement of dogs, foxes, wolves, and Arctic hare. From May 15th to September 1st the raven feeds largely upon dovekies, which

are singled out from the flock, pursued, and captured in the air, or driven exhausted to the ground and to the surface of the fiord ice. The nests of the eider duck also suffer from the depredations of the raven, which jabs its lower bill through an egg and carries it to its nestlings on the cliff. Considered good eating by the Smith Sound Eskimo.

32. *Acanthis hornemanni hornemanni.* Greenland redpoll. Rare at Etah. Two flocks of about ten each seen at Sunrise Point on August 1st, 1916. Specimen obtained September 5th.
33. *Plectrophenax nivalis nivalis.* Snow-bunting. Eskimo name, Kop-a-noo. Found nesting on northern shores of Greenland and Grant Land. Nest of grass, moss, and feathers under and in crevices of ground rocks. Eggs, 4–7. Date, June 19th. This bird arrived at Etah about April 15th. Remained until November 1st. One heard by me at Nerky on November 12th. The Eskimos declare that a few remain all winter. Very musical during the breeding-season.
34. *Saxicola œnanthe leucorhoa.* Greenland wheatear. Migrates in spring to the edge of the Polar Sea. Arrives at Etah about May 20th. Nest in construction and location similar to that of snow-bunting. Date, June 15th. Eggs, 5. Young found in nest July 3d, 1916. Young seen flying on August 5th, 6th, 7th.
35. *Haliaeetus albicilla.* Gray sea-eagle. I record this bird among the list because it nests at Cape Seddon in Melville Bay, the most southern settlement of the Smith Sound Eskimos.

APPENDIX VII

STATEMENTS CONCERNING THE POSSIBLE EXISTENCE OF LAND IN THE POLAR SEA

CAPTAIN RICHARDSON, in his work, *The Polar Regions*, says:

The Eskimos of Point Barrow have a tradition, reported by Mr. Simpson, surgeon of the *Plover* (in 1832), of some of their tribe having been carried to the north on ice broken up in a southerly gale, and arriving, after many nights, at a hilly country inhabited by people like themselves, speaking the Eskimo language, and by whom they were well received. After a long stay, one spring in which the ice remained without movement they returned without mishap to their town country and reported their adventures. An obscure indication of land to the north was actually perceived from the masthead of the *Plover* when off Point Barrow.

In 1850, Captain McClure, when off the northern coast of Alaska, wrote in his journal that, judging from the character of the ice and a "light shady tint" in the sky, there must be land to the north of him.

Marcus Taker, writing in the *National Geographic Magazine, 1894*, under the title of "An Undiscovered Island off the Northern Coast of Alaska," says:

It is often told that natives wintering between Harrison and Camden Bays have seen land to the north in the bright, clear days of spring. In the winter of 1886–87 Uxharen, an enterprising Eskimo of Ootkearie, was very anxious for me to get some captain to take him the following summer, with his family, canoe, and outfit,

to the northeast as far as the ship went, and then he would try to find this mysterious land of which he had heard so much; but no one cared to bother with this venturesome Eskimo explorer.

The only report of land having been seen in this vicinity by civilized men was made by Capt. John Keenan, of Troy, New York, in the seventies, at that time in command of the whaling-bark *Stamboul*, of New Bedford. Captain Keenan said that after taking several whales the weather became thick, and he stood to the north under easy sail and was busily engaged in trying out and stowing down the oil taken. When the fog cleared off, land was distinctly seen to the north by him and all the men of his crew, but as he was not on a voyage of discovery, and there were no whales in sight, he was obliged to give the order to keep away to the south in search of them.

In June, 1904, Dr. R. A. Harris, of the United States Coast and Geodetic Survey, published in the *National Geographic Magazine* his reasons for believing that there must be a large body of undiscovered land or shallow water in the polar regions. He based his theory upon the report that Siberian driftwood had been picked up in South Greenland, upon the observations of drifting polar ice, upon the drift of the ship *Jeannette*, and upon numerous tidal observations made along the northern coast of Alaska and eastward.

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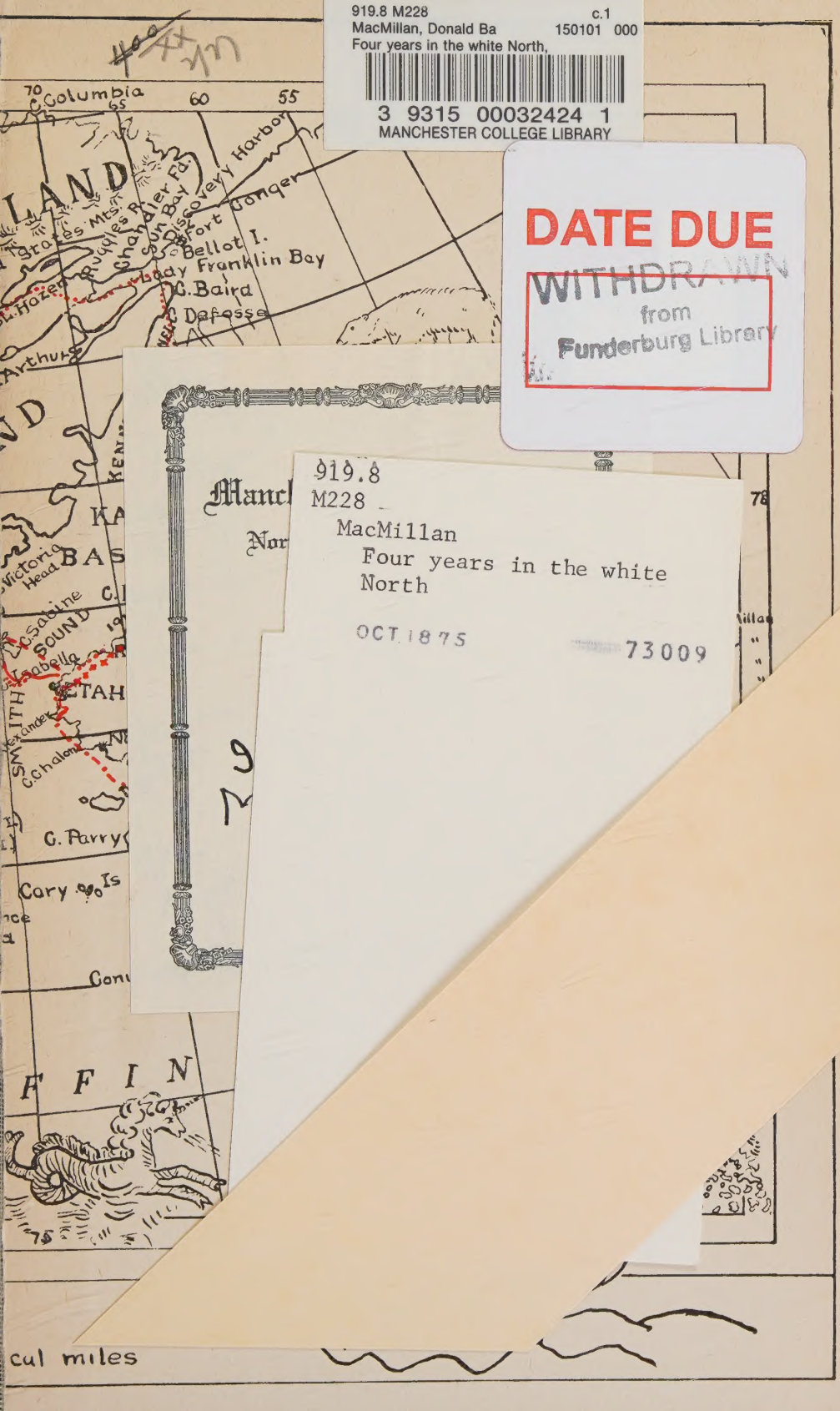
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